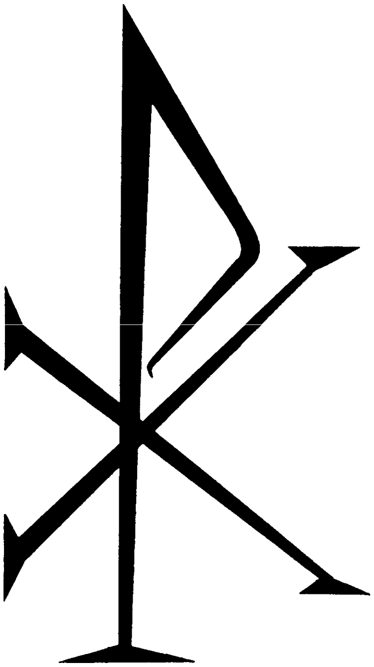
CREATION RESEARCH SOCIETY

QUARTERLY



Haec credimus:

For in six days the Lord made heaven and earth, the sea, and all that in them is and rested on the seventh. – Exodus 20:11

VOLUME 2 OCTOBER, 1965 NUMBER 3

CREATION RESEARCH SOCIETY QUARTERLY

Volume 2 OCTOBER, 1965 Number 3

EDITORIAL BOARD

Walter E. Lammerts, Editor
P. O. Box 496
Freedom, California
John N. Moore, Managing Editor
Department of Natural Science, Michigan State University
East Lansing, Michigan

Henry M. Morris . . . . Virginia Polytechnic Institute, Blacksburg, Va.
John W. Klotz . . . . Concordia Senior College, Fort Wayne, Indiana
William J. Tinkle . . . . Anderson College (retired), Eaton, Indiana
George F. Howe . . . . Westmont College, Santa Barbara, Calif.
Thomas G. Barnes . . . . Schellenger Research Laboratories, Texas Western College, El Paso, Texas
Donald O. Acrey, Geophysicist . . . . Amarillo, Texas

TABLE OF CONTENTS

Page
Announcements 3

Textbook Committee 4

A Critique of the BSCS Biology Books 5
Rita Rhodes Ward

Was Aristotle An Evolutionist? 9
H. L. Armstrong

More Extraordinary Adaptations 11
Evan V. Shute

OUR NEW EDITORIAL LINE-UP
AND
A PLEA FOR MORE ARTICLES AND REVIEWS OF THE LITERATURE

Beginning with this October Quarterly we have a new editorial line-up with Dr. John N. Moore of Michigan State University as Managing Editor. The printing from now on will be done in Michigan to save time in getting the various editions to our Treasurer Wilbert Rusch, Sr., who will continue to mail them from Ann Arbor. We are indebted to the Color Art Press of Oakland, California, for the fine work they have done in publishing the past issues.

We are also fortunate in that Drs. John C. Whitcomb and George Howe will work closely with Dr. Moore in the proof reading tasks so important in getting a publication relatively free of typographical errors.

The time has come again to ask for your cooperation in securing worthwhile articles for our 1966 Annual. We particularly wish to dedicate this to evidence for catastrophic action as an explanation of geological phenomena. Not only are we interested in showing the evidence for a universal flood as an explanation of many of the geological formations, but also in evidence for later widespread catastrophes. Several fine papers have been promised already but we need more.

Also papers showing the clear evidence for design in nature are always welcome. Many articles are constantly being published which need reviewing in order to show how impossible it is to account for the remarkable facts disclosed, on the basis of natural selection of mutations. Thus in the September, 1965, National Geographic Magazine, an article entitled, "Asian Insects in Disguise" (p. 433), is most fascinating. Another example is the May, 1964, article, "Malaysia's Giant Flowers and Insect Trapping Plants" (p. 681), in the same publication which deserves careful review. Both articles show such clear evidence for careful design as to constitute a real challenge to any theory of evolution, and particularly one based on the natural selection of mutations.

Articles such as these should be read and reviewed by our members. The more who write, the greater will be the impact of our testimony, for, though the voice of one may not be heeded, the expressed convictions of many can scarcely be long ignored.

Deadline for articles for the 1966 Annual is January 15, 1966, and the manuscripts may be sent to any one of the associate editors or to me.

Walter E. Lammerts,
Editor

DR. BARNES' TEXT BOOK COMMITTEE MAKING PROGRESS

A textbook committee has been selected from the Creation Research Society to write a high school biology textbook. It has the endorsement of the Steering Committee and hopes to fulfill one of the aims of the Society. Dr. Thomas Barnes is sure that members are aware of the great need for a strong biology textbook at this level which is consistent with the statement of belief of the Creation Research Society.

Dr. Walter E. Lammerts, Dr. Douglas Dean, Rita Rhodes Ward and Dr. Barnes have done some preliminary planning and have made studies of current high school textbooks. Dr. George F. Howe and Dr. Bolton Davidheiser have also made pertinent suggestions.

The material will be portioned out to the committee members according to their specialties and desired areas of work. Each member will have the opportunity to participate in the determination of the scope, level, and content of the book as well as the committee policies.

Most of the work will be coordinated by mail. Dr. Barnes has Xerox facilities and will reproduce each member's contributions for circulation to the other members.

Suggestions by both active and sustaining members, many of whom are teachers, will be welcomed by the members of the committee.

The following committee has been appointed by Dr. Thomas G. Barnes.

Textbook Committee

Dr. Russell C. Artist
Head of Biology Dept., David Lipscomb College, Nashville 5, Tennessee

Dr. Thomas G. Barnes, Chairman
2115 N. Kansas St, El Paso, Texas 79902

Dr. Bolton Davidheiser
Biola College, La Mirada, California

Dr. Douglas Dean
Biology Department, Pepperdine Christian College, Los Angeles, California, Home address: 125 Cumberland Rd., Glendale, California 91202

Dr. Duane T. Gish
Research Associate, Dept. of Biochemistry, Research division, The Upjohn Co., Kalamazoo, Michigan

Dr. George F. Howe
74 Lake St. Extension, R.D. 1 Dryden, New York 13053, On Sabbatical leave from Westmont College, Santa Barbara, California

Dr. John W. Klotz
Concordia Senior College, Fort Wayne, Indiana

Dr. Walter E. Lammerts
P.O. Box 496, Freedom, California

Dr. John N. Moore
Department of Natural Science, Michigan State University, East Lansing, Michigan

Dr. Jack Wood Sears
Dept. of Biology, Harding College, Searcy, Arkansas

Dr. William J. Tinkle
112 South St., Eaton, Indiana

Rita Rhodes Ward
Biology Teacher, El Paso Public Schools, 3600 Aurora, El Paso, Texas

Dr. Paul A. Zimmerman
President, Concordia Junior College, Ann Arbor, Michigan

A CRITIQUE OF THE BSCS BIOLOGY BOOKS

RITA RHODES WARD, *M.A.*
High School Biology Teacher
El Paso, Texas

Introduction

In January 1959 The American Institute of Biological Sciences set up a committee called the Biological Sciences Curriculum Study. Supported by the National Science Foundation, the committee, commonly called the BSCS, undertook a study of biological teaching from kindergarten to college. It was decided to provide an entirely new type of curriculum starting with the key level, high school.

When study was started under the direction of a steering committee, it soon became evident that ideas of suitable approaches varied so widely it would be impossible to prepare a single text that would please all, Accordingly it was decided to prepare three texts with different methods of approach. To prevent ranking the texts it was decided to call the texts by colors, so they came to be called the *Green Version,* the *Yellow Version,* and the *Blue Version.* The Yellow *Version,* given the title *Biological Science: An Inquiry Into Life,* was published by Harcourt, Brace and World, Inc. Rand McNally and Company published the *Green Version* which was given the title, *High School Biology.* The *Blue Version, Biological Science: Molecules to Man,* was published by Houghton Mifflin and Company.

The Themes of the Books

All the texts and the accompanying laboratory work are built around nine themes which are proposed as unifying themes. They are as follows

"1. Change of living things through time: evolution
2. Diversity of type and unity of pattern in living things
3. The genetic continuity of life
4. The complementarily of organism and environment
5. The biological roots of behavior
6. The complementarily of structure and function
7. Regulation and homeostasis: preservation of life in the face of change
8. Science as an enquiry
9. The history of biological conceptions"[1]

According to Schwab the first five of these themes are concerned with content, the sixth and seventh are intermediate, and the last two are concerned with the structure of the BSCS materials. Let us note what this author has to say about evolution in the first five themes or the content of the courses:

Theme 1: "It is no longer possible to give a complete or even a coherent account of all living things without the story of evolution." [2]

Theme 2: "As we have indicated before this theme is, in part, a special aspect of the theme of evolution." [3]

Theme 3: "This theme, too, is part of the theme of evolution" [4]

Theme 4: "This theme, too, is part of the theme of evolution especially where it concerns the environment of the whole organism."[5]

Theme **5**: "In brief, the BSCS texts emphasize behavior as arising not only from the experience of the individual but also from the 'experience' of its forebears, the stored experience arising from variation and selection in evolution."[6]

The slant of the content of the texts is unmistakable. Theme 6 is equally evolutionary in its approach. Again we quote:

"Long before the mechanism of evolution was understood, the well-organized character of life units was recognized and the functions of their parts investigated. With the development of the theory of evolution, the conception of function underwent important changes. We no longer thought of the organism as a *perfect* organization but instead recognized the possibility of the vestigial, the novel, and the incompletely relevant part. This did not mean, however, that the conception of function became obsolete. On the contrary, within the limits required by our knowledge of evolutionary processes, we still sought evidence through which to understand each part in terms of its contribution to the whole." [7]

The theory of evolution is not explicitly mentioned in the discussion of the seventh theme. The last two themes are concerned with the ways in which the content of the courses is presented to the student. Theme 8 suggests that science is an enquiry. The authors oppose the use of authoritative statements:

"We have remarked that teaching science merely as authoritative facts and dogma has had an extremely bad effect on American attitudes toward science and scientists." [8]

The authors state that authoritative science teaches the student to distrust science since he learns later that some of the "facts" he was taught in high school were errors. Accordingly BSCS proposes to teach the student that science is an enquiry that never is finished. To emphasize the uncertainties the texts freely use many such expressions as these: "we now believe" or "according to the best information now available." This is good as far as it goes, but note how the writers practice the authoritative slant which they condemn. Although the authors decry the use of authoritative statements, we find the texts have authoritative statements intermingled with clearly qualified statements. The following quotations from the *Yellow Version,* chosen at random illustrate this:

Properly qualified statement: "Certainly we have no direct or indirect fossil evidence that the earliest living things were associations of organic molecules living in a hot thin soup."

Qualified but suggestive statement: "Although the evidence is still inconclusive, it suggests that for more than a billion years, the dominant and perhaps only forms of life on earth were microscopic organisms such as algae, bacteria, and molds."

Authoritative statement: "Yet any certain knowledge of these ancient events is scanty. This is because fossils of early organisms are exceedingly rare. *The cause of this is twofold. First, most of the early animals and plants were small and had soft bodies. They decayed and left no traces. Second, the sedimentary rocks that formed during these early times have generally been altered so much by heat and pressure that fossils in them would have been destroyed."* (Italics added)

Authoritative: "*These rocks contain the fossils that tell the story of evolution." (* Italics added)

Authoritative: *"Tremendous events had occurred before the Cambrian period, however. This we know because already in the Cambrian we find a rich variety of complex animals and plants."* [9] (Italics added)

Reading further we find this mixed quotation: "This apparent explosion of life at the beginning of the Cambrian is in a sense discouraging. It means we find it difficult to learn much about *the evolution that took place before the beginning of the Cambrian."* [10] *(* Italics added)

In reality the BSCS books contain many authoritative statements, but there are enough qualifying statements to give the impression of objective integrity. Thus the student may easily be taken in by the infusion of unfounded authoritative statements.

The Presentation of Evolution as a Theory to the Student

Concerning the importance of evolution as a theory Schwab has this to say:

"It is no longer possible to give a complete or even a coherent account of living things without the story of evolution." [11]

Furthermore Schwab explains to the teachers how evolution is presented to the student:

"Because of its pervasive and comprehensive character, evolution is treated in three different ways in the BSCS materials. There are specific chapters on *evolution as the history of living things.* There are specific chapters on *evolution as a process.* And third, evolution *either* as a history *or* as a process is *interwoven* in all the other chapters where it has a place: in the treatment of cell chemistry, ecology, taxonomy, and so on." [12] (Italics added)

Even though evolution permeates the entire course, the authors carefully refrain from explicitly labeling evolution as a "fact" in the texts but tell the students it is a "theory." Let us see how this is done.

Green Version: "Both the revolution in astronomical thinking and the revolution in biological thinking were difficult. But both were complete. No one who has read attentively thus far in this book can fail to gain the idea that living things–individuals, populations, species, communities—are constantly changing. From the first chapters the idea of biological change through time has been constantly before us-where not directly mentioned it has been implied." [13]

"Overnight nearly all (but not quite all) the biologists of the world were convinced that this theory–the *theory of organic evolution–is* true." [14]

Yellow Version: "Of all the theories you may study in biology, evolution occupies a unique place. It is the most inclusive of the great unifying principles of biology. It is so much a part of the foundation of biology that the science can hardly be understood without it. . . . .

"Evolution is a scientific theory. It [the theory] has been developed to account for an existing body of data." [15]

In the *Biology Teachers' Handbook* is found a very interesting comment regarding application of the term *theory* to evolution. I quote:

"A special word is necessary concerning our habit of referring to 'the *theory* of evolution.' This usage is often taken to mean that evolution is but an envisaged possibility, something uncertain and unproved. This interpretation, in turn, is due to a mistaken idea about the meaning of 'theory' and its place in science. This mistaken idea treats science as a process of verification.

In that process of verification, it is mistakenly supposed that materials go through three stages or degrees of certainty: a first stage, of complete doubt, called hypothesis; a second stage, of uncertainty, called a theory; a third stage, or certainty, called a fact or principle. This sense of 'theory' no longer holds in science, if it ever did. Modern science is not merely a process of verification of isolated items but a process of organization as well. In this twofold process, 'theory' refers, not to the uncertain, the unverified, but rather to the coherent and organized . . . Evolution is a theory in this sense, yes–a body of *interrelated* facts. As new facts about evolution are discovered, the organization may be changed in order to include them, but this would *not* mean that the present organization of facts now known is unsound." [16]

It would seem that the laws of some states prohibiting the teaching of evolution as a fact but permitting its being presented as a theory are rather pointless when that interpretation of "theory" is used.

Confusion of Terms

Not only is the use of the term "theory" confused in general, but there is failure to delineate between *limited change,* which is easily observed or demonstrated in the laboratory, and *total evolution* which is nothing but hypothesis. Schwab states the two phases this way:

"Evolution, then, forms the warp and woof of modern biology in two different ways. First, evolution appears as the *history* of organisms, the sequence of unique events in past time from which the biological present has had its origin. . . . This history may well be the key to understanding the biological future . . . Second, evolution appears in organisms as a *present* phenomenon. We have not only inferred the course of evolution in the past from such evidences as *all* historians use, but we have also seen it occur in the living present." [17] (Italics added)

On examining the texts it can be seen that the writers use "present evolution" (limited change) as evidence to support "historical evolution" (molecules to man). The Green Version, for example uses Darwin's finches, various breeds of chickens, the peppered moth, the two color phases of screech owls and of foxes, various kinds of Cucurbita, and the colors of hares and rabbits as examples of limited change or "present evolution" to illustrate the presumed basis of "historical evolution" (molecules to man). There is no suggestion that the gaps between orders, classes, and phyla are not crossed either in the fossil record or in nature today. [18, 19, 20, 21]

But that is the very place an objective text should point out those qualifying limitations. Although some weaknesses in the theory are mentioned, many other weaknesses are not pointed out. Perhaps the following quotation gives the reason:

"Every law has its exceptions or its uncertainties, and every theory is subject to question. Sometimes these exceptions and uncertainties must be *minimized,* else the student might become *disconcerted, confused* and *hindered* in achieving an understanding of what we know as science. Later these limitations should be examined as the student's understanding progresses," (Italics added)

The Use of Genetics to Support Evolution

The BSCS texts place great emphasis on genetics as providing the explanation of how evolution supposedly takes place. Mutation is considered the source of change with selection providing direction, Again the authors fail to point out some pertinent facts. Note what Dr. Walter E. Lammerts (professional geneticist) has to say about these omissions in the Yellow Version:

"I am amazed that they use the Hardy-Weinberg principle as part of their proof of evolution. This expression of *stability* of a breeding population is used very cleverly to prepare the student for the idea of change. Then change is equated with evolution and the mind is all prepared to accept almost any proposition no matter how impossible such as the conversion of fins into legs. What amazes me is that they fail to say that since most mutations are harmful under natural conditions, the Hardy-Weinberg stability principle is accentuated by selection *against* the accumulation of mutations! But since this selection can only operate against the homozygous mutant, the feed back into the next generation by the heterozygote continues. Since obviously mutations are in the great minority to start with they are soon eliminated! They fail to state that no population studies have yet demonstrated a take over by the mutant gene." (Personal communication)

Materialistic Philosophy

One does not find any statement that there is no God in the BSCS books, but the material is so handled that the student easily concludes that God is not necessary. At that point atheism is the next step.

In the Yellow Version, chapter 4 (29 pp.) is devoted to a study of vitalism versus mechanism as a means of explaining life phenomena. The two terms are defined as follows:

"There have been two main philosophies to account for the relation of life and matter. One is *vitalism,* a philosophy that assumes that life is made possible by some force that is neither chemical nor physical. The other is *mechanism*, a philosophy that assumes that life can be explained entirely in chemical and physical terms."[23]

Following discussion of Aristotle and Descartes, and the work of Priestley and Wohler, the student is lead to this conclusion:

"This is not to say that scientists proved there is no vital force, They showed that it was *unnecessary* to invoke a vital force to explain the data of the physiology of cells and organisms. Vitalism was not discarded: it became unnecessary in explaining biological activities."[24] (Italics added)

The purely mechanistic philosophy is very ingenuously taught without saying so in definite terms. In the teachers' manual we find these statements regarding this material:

"The basic idea of this chapter is the firm establishment of the fact that biological function is explicable in terms of the laws of chemistry and physics—the same laws, essentially, that apply to nonliving materials of the earth. , . . While not disproving the theory of vitalism, the conclusion is inescapable that physiological problems are approachable by the methods of chemistry and physics—that, in fact, they cannot be understood without resort to chemistry and physics,"[25]

By means of suggestive questions the student is lead to believe that the mechanistic philosophy is *the* logical one and leaves the false impression that the mechanistic approach can be verified by experimental means. According to the BSCS writers the mechanistic method is all-sufficient. There is no compromise–no recognition that both factors can be involved in explaining vital functions.

Again, as in so many situations, the discussion is not complete. Much is made of the discovery that enzymes could digest foods in a test tube. No vital force was present, they say, but they fail to mention that in the living organism living cells produce the enzyme, the enzymes do not digest the protein of the stomach or intestinal wall until death takes place, and also parasites found in the digestive tract are not digested though they are protein. They do not suggest that both chemical and vital factors can be involved.

The theme of mechanism is taken up again in chapter thirty-six dealing with the origin of life. Note what is said about this in the teachers' manual:

"The basic issue is how science can account mechanistically for the origin of life."[26]

Similarity of the Texts

According to BSCS officials about seventy per cent of the material in the three books is the same. That becomes evident on studying the books. The approaches are different. The Green Version stresses ecology, the Blue Version gives more emphasis to molecular biology, while the Yellow Version gives more attention to the cellular level. In the main the same subjects are discussed but where one text devotes an entire chapter or section to one subject another may reduce the quantity to a few pages. For example the Blue Version devotes five chapters to theories of the origin of life and Oparin's Hypothesis of the origin of life and the evolution of the cell. The Green Version devotes only about two pages to Oparin's Hypothesis. The Yellow Version emphasizes the historical phase of evolutionary philosophy giving more attention to fossil evidence.

Conclusion

It seems clear that all three of these books are dedicated to the promulgation of total organic evolution to the exclusion of objectivity in biology, if need be, in order to eliminate any belief in fiat creation.

References

[1] Schwab, Joseph J. (Supervisor), *Biology Teacher's Handbook,* John Wiley and Sons, Inc., New York, 1963, p. 31.

[2] Ibid., p. 31.

[3] Ibid., p. 33.

[4] Ibid., p. 34.

[5] Ibid., p. 34.

[6] Ibid., p. 36.

[7] Ibid., p. 36.

[8] Ibid., p. 45.

[9] BSCS, *Biological Science: An Inquiry into Life,* Harcourt Brace and World, Inc., 1963, pp. 638, 639.

[10] Ibid., p. 641.

[11] Schwab. op.cit., p. 31.

[12] Schwab; op. cit.; p. 33.

[13] BSCS, *High school Biology,* Rand McNally and Company, Chicago, 1963, p. 572, 573.

[14] Ibid., p. .580.

[15] BSCS, *Biological Science: An Inquiry into Life,* Harcourt Brace and World, Inc., New York, 1963, p. 589.

[16] Schwab, op. cit., pp. 32, 33.

[17] Schwab, op. cit., p. 32.

[18] Kay, Marshall and Edwin H. Colbert, *Stratigraphy and Life History,* John Wiley and Sons, Inc., New York, 1965, p. 617.

[19] Andrews, Henry N., Jr., *Studies in Paleobotany,* John Wiley and Sons, Inc., New York, 1961, p. vii.

[20] Lanham, Url, *The Insects,* Columbia University press, New York, 1964, p. 19.

[21] Rensch, Bernard, *Evolution Above the Species Level,* Columbia University Press, New York, 1960, p. 267.

[22] Novak, Joseph D., "Conceptual Schemes and the Process of Science," NSTA Conference of Scientists, *The Science Teacher,* Oct. 1964, p. 11.

[23] BSCS, *Biological Science: An Inquiry into Life,* p. 65.

[24] Ibid., p. 91.

[25] BSCS, *Biological Science: An Inquiry into Life, Teacher's Manual,* Harcourt, Brace and World, Inc., New York, 1963, p. 8.

[26] Ibid., p. 102.

WAS ARISTOTLE AN EVOLUTIONIST?

DR. H. L. ARMSTRONG

Queen's University, Kingston, Ontario, Canada

It is sometimes said that Aristotle maintained a doctrine of evolution. The statement is made both by people who believe in evolution, and wish either to support it with Aristotle's authority or to do him a favour by ascribing to him a popular doctrine; and by people, like ourselves, who disbelieve in evolution. My purpose here is to show that Aristotle never maintained any such doctrine at all. If it be asked what is the use of raising the question now, I reply that there seems to be no reason why we should ascribe to a man, even to one dead over two thousand years, views which we consider to be false, and which he never held.

Let it be noted first that, as Standen has pointed out, there are really two theories–"groups of notions" might be a better way to put it–in connection with which the term "evolution" has been used. As he said[1]". . . it is really two theories, the vague theory and the precise theory . . . (the vague theory) points to the striking similarities in every detail, between the bodies of men and of the apes . . . it would seem to prove that all forms of life are connected in some way . . . The precise theory of evolution is that all forms of life on the earth today came from some original form of life by a series of changes which, at every point, were natural and explainable by science . . . (it) is much further from being proved than men are from flying to the moon."

Actually, Standen's "vague theory" should not be called "evolution" at all, any more than the noticing of the fact that Jones looks quite a bit like Smith should be called "genealogy." Nor should it be called a "theory"; if anything, it is just an observation, Since "evolution" literally means "unrolling," as a written scroll would be unrolled, the "vague theory" is merely the observation that we find some logical connection between the various lines written on the scroll. But the "precise theory" is more like saying that the first line wrote the second, the second the third, and so on. Let us, to avoid confusion, call what Standen called "the vague theory" by such names as "homology," "similarity" or "analogy."

Now Aristotle was a keen observer of "analogy." In "On the Parts of Animals" [2]he said ". . . many groups (of animals) . . . present common attributes . . . in other groups . . . analogous . , . some groups have lungs, others have no lung, but an organ analogous to a lung in its place; some have blood, others have no blood, but a fluid analogous to blood . . ." Many similar passages could be quoted. But he did not in the least go on to say that analogy implied a common ancestry; in fact, he seems not to have felt the need of any account of the "origin of the species."

He says[3]". . . it is impossible that such a class of things as animals (as individuals) should be of an eternal nature, therefore that which comes into being is eternal in the only way possible, Now it is impossible for it to be eternal as an individual (though of course the real essence of things is in the individual)–were it such it would be eternal–but it is possible for it as a species. That is why there is always a class of men and animals and plants." And in another place[4]he said that coming to be (e.g. generation of animals) will never fail, for ". . . God . , . fulfilled the perfection of the universe by making coming to be uninterrupted . . . because that coming to be should itself come to be perpetually is the closest approximation to eternal being."

So Aristotle seems to have been inclined to believe that living creatures had existed from eternity in more or less their present form, and would continue to do so. Indeed he said[5]". . . in connection with the origin of men and quadrupeds, if they were really "earth-born" as some say, they came into being in one of two ways: either it was by the formation of a scolex at first or else it was out of eggs."

He goes on to say ". . . if there really was any such beginning of the generation of all animals, it is reasonable to suppose it to have been one of these two: scolex or egg. But it is less reasonable that it was from eggs . . ." The translator adds here the note "This is, I believe, the only passage from which we can gather anything about Aristotle's views on evolution . . . He contemplates the possibility that man's ancestor was a scolex; he never thought that he might have been a monkey. Each species would have a separate beginning by spontaneous generation; they would not be related by descent from a common ancestor." (By "Scolex" Aristotle apparently meant something like an egg or larva, generated in some cases by adults of another kind, in others spontaneously.) Incidentally, the word "evolution" may be found in translations of Aristotle, but it will be found to mean development of the individual, not origin of the species.

So Aristotle's view was certainly not a Darwinian one. Indeed, Empedocles had earlier proposed something more nearly like "variation and natural selection,” and Aristotle commented[6] “why then should it not be . . . e.g. that our teeth should come up of necessity–the front teeth sharp, fitted for tearing, the molars broad and useful for grinding down the food—since they did not arise for this end, but it was merely a coincident result; and so with all other parts in which we suppose that there is purpose, whenever then all the parts came about just what they would have been if they had come to be for an end, such things survived, being organized spontaneously in a fitting way; whereas those which grew otherwise perished and continued to perish as Empedocles says his “man-faced ox progeny” did . , . yet it is impossible that this should be the true view. For teeth and all other natural things either invariably or normally come about in a given way, but of not one of the results of chance or spontaneity is this true.” And in another place[7] “There are some too who ascribe this heavenly sphere and all the worlds to spontaneity. They say that the vortex arose spontaneously, i.e. the motion that separated and arranged in its present order all that exists. This statement might well cause surprise . . , Besides the other absurdities of the statement, it is the more absurd that people should make it when they see nothing coming to be spontaneously in the heavens . . .“

It seems clear, then, that Aristotle recognized–nay insisted on—the fact that all animals, indeed all living creatures, have similarities one to another. But the idea that their relation would be that of having common ancestors never occurred to him; and he, with his strong sense of purpose in everything, would have considered it ridiculous to say that their coming to be was through chance.

It may be remarked also that Aristotle was no friend of the “doctrine of uniformitarianism,” which was not particularly new in his time. He said “. . . Democritus reduces the causes that explain nature to the fact that things happened in the past in the same way as they happen now, but he does not think fit to seek for a first principle to explain this ‘always’: so, while his theory is right in so far as it applies to certain individual cases, he is wrong in making it of universal application. Thus, a triangle always has its angles equal to two right angles, but there is nevertheless an ulterior cause of the eternity of this truth, whereas first principles are eternal and have no ulterior cause.” [8] (“Ulterior” here of course means just “further,” and is not used in any bad sense.)

Let us notice one point in conclusion. Aristotle was a pagan, without any of the advantages of revelation which the humblest Christian enjoys. If, then, he could see close enough to the truth to keep himself clear of godless theories, how much more ought Christians to do so?

Note added: There are two books which might be of some interest in connection with what has been written here. The first is “Aristotle Looks into Evolution” by J. T. Bergen, published in 1940 by Northwestern Publications, Minneapolis. I have not yet been able to read this work, since it is out of print and the company apparently out of business. It seems to be concerned, not to investigate Aristotle’s views on evolution, but to apply his method of reasoning against the doctrine.

The second is: “Aristotle, Galileo, and the Tower of Pisa,” by L. Cooper, published by the Cornell University Press, Ithaca, in 1935, This has not much to do with our obligation, as Christians, to believe the Scriptures, but it may have to do with our obligation, as Christians, to be fair.

The quotations from Aristotle are from the translation published by the Oxford University Press in the earlier part of this century, and completed in 1931. The citations “Oxford . . , etc.” locate the references in the traditional way. Most of the references are found in the volume “The Basic Works of Aristotle” published by Random House, Inc., New York, in 1941. References are located in this volume by “Random” followed by the number of the page.

---

[1] A. Standen, “Science is a Sacred Cow,” E. P. Dutton & Co., Inc., New York, 1950 pp. 100-103.

[2] Aristotle “On the Parts of Animals” (Translated by W. Ogle) Book 1 Ch. 5 (Oxford vol. V, 645,^{b} Random p. 657).

[3] "On the Generation of Animals” (Translated by A. Platt) Book 2 Ch. 1 (Oxford vol. V, 731^b)

[4] "On Generation and Corruption” (Translated by H. H. Joachim) Book 2 Ch. 10 (Oxford vol. II, 336^b, Random p. 527).

[5] “On the Generation of Animals,” Book 3, Ch. 11 (Oxford vol. V, 762^b & 763^a.)

[6] “Physics” (Translated by R. P. Hardie and R. K. Gaye) Book 2, Ch. 8 (Oxford vol. II, 198^b, Random p. 249.)

[7] “Physics” Book 2 Ch. 4 (Oxford vol. II, 196^a, Random pp. 243 & 244.)

[8] “Physics” Book 8 Ch. 1 (Oxford vol. II 252^a & 252^a, Random pp. 358 & 359.)

MORE EXTRAORDINARY ADAPTATIONS

Evan V. Shute, *F. R. C. S.(C)*
London, Canada

Introduction

The *perfection* of adaptation is a constant source of wonder to me. All this intricacy of adjustment can scarcely be necessary. Indeed, the evolutionist concedes this for he claims that less was good in its way and long served the species until better was attained. But when enough was good, why has the adaptation progressed to an ever finer finish until *superb* complexity and interadjustrnent became *the rule?*

Just as the good predicates the good artificer, so the best subsumes the best. Nature "showeth His handiwork."

Senses

The fire ant, *Solenopsis saevissima* (F. Smith), produces an odour trail that other fire ants will follow, by laying down the secretion of a special accessory gland released through the sting.[1]

Plants

Sensitive plants[2] have an organ called the pulvinus at the base of the leaflet and at the base of the petiole. At its centre is a strand of vascular tissue surrounded by a cylinder of thin-walled cells separated by larger intercellular spaces. In certain states the cells engorge and stiffen. Under other conditions fluid is secreted in the intercellular spaces and the pulvinus becomes flaccid, Groups of cells by themselves can become turgid or lax, producing bending of the organ. It can even lift a leaf against gravity quite readily—this being almost comparable to a muscular contraction.

The orchid family deserves attention, too. They are so variable that similar flowers can be found in different genera having unlike vegetative parts.[3] Dissimilar flowers are often seen in the same genus. In some of the polymorphic genera there is as much variation between individuals as between species. They are eccentric forms. Their seeds[4] are so minute they contain little or no stored food. They cannot survive alone, and after the first few days die unless a beneficial fungus forms a symbiotic relationship with them. This symbiosis is most marked in the saprophytic species, for their nongreen leaves cannot photosynthesize. These orchids are actually parasites on fungi. The flowers can take almost any form. There may or may not be spurs, and Darwin thought spurs implied nectar, but, really, few or none have nectar, In those which do it may appear *after* impregnation and so be of no use in attracting insects. The numerous and highly extravagant forms of processes on orchids seem to have no use but to assist in classification! The orchid lip is more variable than the rest of the plant only in some genera, Adam says, and illustrates this with pages of drawings. It is hard to find common ground, she admits, upon which to organize comment. The pollinia, even the pollen grains, differ remarkably. The heritable characters appear almost numberless. All this, too, in light of the fact that only 25 species of at least 10,000 have been studied thoroughly to date. In the orchid embryo only the first division is consistent in all taxa. In a few the second division is consistent—but in only a few. Natural and artificial intergeneric hybrids are known.

So here is the most variable plant family known, where every possible variation from root to symbiont to flower is recorded. It raises a host of questions about adaptation. Why are so many forms needed, all of them adequate? Why has no other family emulated the orchids? It is as if "Nature" was demonstrating its virtuosity here for no ascertainable reason. Why has no narrow standardization by "selection" been achieved here?

Symbiosis

The Portuguese man-of-war[5] is a whole colony of different organisms. One kind forms the float, one supplies the fishing tentacles and a third kind consists of the digesting gastrozoids. A fourth type of organism looks after reproduction. These types of creatures do not survive long after separation. The gas of the float is secreted by a sort of gas gland, as in the swim bladder of fishes. It can inflate a deflated float in minutes and apparently has a feedback mechanism controlling its activity. The resting gastrozoid is only 1 to 2 mm. in diameter but can expand to 20 mm. or more and can take up a small fish with the help of its neighboring gastrozoids. The tentacles carry batteries of stinging nematocysts. Normally these are inverted tubes, held closed by a trigger. If stimulated the tube everts and may extend 100 to 300 times the diameter of its capsule. The surface of the tube is studded with a variety of spikes and hooks, and at the same time the tube can sting with a toxic fluid, about 75 per cent as strong as cobra venom. But loggerhead turtles eat these jelly-fish nonchalantly and the small, gay fish, *Nomeus gronovii*, lives and feeds inside the tentacles. Its stomach may contain many nematocysts. It can be stung, but quickly recovers. Indeed, it is 10 times as resistant as other fish.

For Food

The woodpecker has a unique arrangement of its toes for grasping trees—two forward and two pointing back. The mid-feathers of its tail are very strong and by a curious adaptation these main supports do not molt until all the rest of the tail has been replaced and can hold the bird up on a trunk. It has an uncanny ability to locate insects under bark or through wood, probably by pecking, then listening *acutely*. It can hit hard wood as often as 100 times per minute but not get dizzy, for the woodpecker has a thick skull, a straight, hard, sharp beak, and powerful neck muscles. The bones between beak and skull are not rigidly joined as in most other birds but have a spongy connective tissue pad between, The tongue may be 4 times as long as the beak and can go around curves or bend to reach ants in their burrows. It is often pointed and has little barbs like fish-hooks on its tip. Often, too, it has a sticky substance on its end. This tongue can whip up over the bird's head and even snatch food from behind the head. The California acorn-storing woodpecker makes rows of holes in certain trees, then tamps acorns into them. These are stores to which it later returns year after year–and always to the right tree.

The archer fish[7] *(Toxotes jaculatrix)* is a living water pistol. It can aim a jet of water accurately at a range of 2 to 3 feet, and douse an insect it wants to capture. But this is only one minor way of securing its food. Hence the interesting question to evolutionists: if spouting is so unimportant to this fish, why has it been a factor in survival and selection and differentiation within the species? The propulsive force is produced by a sudden compression of the gill covers. The tongue lies along a groove in the roof of the mouth to make the bore of the water gun. But how does a fish below the surface discern and aim at small objects above the surface? Refraction is not a real problem, says Luking, because it fires nearly vertically and from close to the surface. For close prey it leaps to bite, and this it can do effectively because it has binocular vision and can direct its eyes forward to see close to the snout, The fish aims its jet just below its prey, detaching it by the rebound! Its eyes have an unusually large number of rods, giving it fine vision in dim light.

Solitary or predatory wasps[8] number hundreds of genera, Each species hunts just one prey, perhaps only one species or genus, and thus these wasps have a wide repertory of hunting techniques. The males live solely on plant exudates–only the females hunt, This host specificity, which can be very narrow, is odd since the larvae of the wasps can often develop normally on quite different prey than the mother brings to them, Wasps rarely make mistakes in the selection of their prey, Evans insists, yet in various parts of its range a wasp may select a different array of flies-or a wasp may change from one prey to another. The sequence of stereotyped actions of the attacking wasp varies in adaptation to the anatomy of its prey. It may be a single sting, if that is all that is needed for one large ganglion, as in many Homoptera, or it may be a series arranged to paralyze the jumping legs of a cricket before its other legs, or be inserted along the thorax and then underneath to catch the prolegs of certain caterpillars as well as the thoracic legs. The exact ganglion need not be penetrated precisely since the venom can diffuse into the appropriate muscles from a more random sting. The predator wasps are able to distinguish mimics that fool vertebrates regularly, such as tree hoppers or preying mantids.

Metabolism

In Hebron Fjord in Labrador supercooled fish live at 100 to 200 metres depth where the water is —1.7° C all the year round and below the freezing point of fish blood by 1°C. If brought to the surface and freezing is triggered by touching them with ice they freeze throughout and die. They survive where they are because there is no ice down there to trigger freezing.

Ross[9] tells of Mexican carpenter ants *(Camponotus abominalis)* who during the day keep caterpillars of a rare butterfly in closed burrows, a few ants staying inside to guard the precious larvae. The burrows are close to the latter's food plant. In the evening the guardian ants inspect this bush for marauders, then shepherd the caterpillars out to eat. The ants then jump on the larvae and drink their honeydew on the spot. When dawn approaches the ants herd the caterpillars down into their burrows again and seal these with mud pellets. They even guard the larva when it becomes a chrysalis. The caterpillars are never found where the carpenter ants are not seen and cannot live without them!

As the fish-like tadpole[10] changes into a frog its nitrogen excretion alters from 90 per cent ammonia to 90 per cent urea. The arginase needed to catelyze arginine into urea increases by 10 times during metamorphosis. Arginine derives from ammonia by a process demanding three enzymes. These increase likewise, by as much as 50 times, What a wonderful biochemical mobilization for life on land! The blood serum at the same time increases its albumin and so conserves circulating fluids. Tadpole haemoglobin readily loads oxygen and frog hemoglobin unloads it as readily. The former does not contain cysteine. The long vegetarian gut of the tadpole shortens in the insectivorous frog. Enzyme changes accompany this to handle the new high-protein diet in the pancreas and bowel. The bull frog tadpole, like a fish, has purple porphyropsin in its retinal rods, but this changes in the frog to red rhodopsin. No adaptational reasons for this can be thought of, says Friedin. He concludes that the biochemistry of metamorphosis may not parallel the biochemistry of evolution precisely!

In the kangaroo the epitheliums of the embryo's mouth grows so intimately to the nipple epitheliums that the mouth is lacerated if the baby is forcibly removed[11].

Elephants and women and whales have attendants at childbirth, the latter (in whales) nuzzling the newborn whale to the surface to let it breathe.

All types of placentae occur in primates, our haemochorial type being shared with insectivore "lower" than the tree-shrews and with Tarsius. Indeed, it is very hard to outline a phylogenetic tree for the placenta, Rhodes regards the foetal circulation and its transition to extra-uterine life, the intrauterine foetal movements, and so on, as "fantastic adaptations" which shake his faith, "convinced evolutionist" as he is!

Odoriferous glands in mammals have nothing in common but their smell[12], They may be occipital (Arabian camel), suborbital (antelope), on the throat (Californian mastiff bat), scapular (fruit bat), sternal (opossum), lateral (shrew), dorsal (golden hamster), axillary (man), supracaudal (guinea pig), interdigital (ruminants), scrotal (potto), soles of feet (mice), anal or perineal (stoat, civet), preputial (musk deer, muskrat, beaver). The crocodile has them in its cloaca. Many are altered by hormones. They have been classed as pheromones,

The quarter-inch long Stenodus beetle[13] when attacked by a water-strider, squirts out a bit of detergent from its abdominal glands. This breaks the surface tension of the water in front of the attacker, which sinks, and a small wave pushes the Stenodus out of danger. Indeed, they can move as fast as 2½ feet per second due to their detergent, However, the protective powers of the Stenodus work only astern. On a frontal attack the water-strider wins.

Mead-Briggs[14] found that rabbit fleas, *spilopsyllus euniculi*, can produce mature eggs only when feeding on a pregnant rabbit. The eggs develop pari-passu with the rabbit pregnancy, *whenever laid*, and hatch when the rabbit gives birth. If the eggs are moved to an unsuitable rabbit they become smaller again. Cortisone given to the host matures the eggs of the flea. Hence vertebrate hormones such as hydrocortisone may play a role in the reproduction of blood-sucking arthropods!

Two moths, the corn ear-worm (Heliothis) and Abbott's sphinx (Lapara)[15] can raise their own thoracic temperature as much as 17° F. Certain antennary spines act as aerials to receive wavelengths of 1.7, 2.35, 6.0 and 8.6 microns, The compound eyes of certain moths act as sensitive radio-meters searching out specific hot points in the far infra-red range—hence their success in finding "hot" mates.

Luminescence occurs in more than half the zoological phyla. Some species of prawns and fish have both extracellular and intracellular luminescence. In deep-sea squids, prawns and fishes there are often accessory structures increasing the efficiency of the light organs (like bull's eye-lanterns). A mass of light-producing photocytes lie inside, and the front of the organ may have one or several lenses. The reflector in fireflies is probably urate crystals, and in fish platelets of guanine. In squids a pair of light-organs fits into the ink-sac, and in them are compartments holding luminous bacteria, with a reflector and lens. The ink-sac forms an opaque screen behind. The light organs of fishes can be located on the ventral body wall, lower jaw, or the wall of various parts of the gut. Since organs containing luminous bacteria emit light continually there are also appropriate devices for varying the light intensity or for screening it.

Scale-worms have luminescent scales which flash intermittently–may flash, too, when cast off from the body. Stomiatoid fishes from the ocean depths have a rotating mechanism which can turn the light organs down to conceal them. Of two fishes with large bacterial cheek luminescent organs, one, Anomalops, can rotate its organ thus but the other, Photoblepharon, draws an opaque curtain over it! Very different chemical compounds can be used in light production, as Nicol[16] points out. The luciferin of bacteria and of a marine clam, Pholas, can be somewhat similar, but in fireflies it is much different, and there is another type again in the minute shelled crustacean, Cypridena, or in the jellyfish, Aequorea. It seems that luminescence is a convergence phenomenon and has taken many chemical approaches. No one has yet offered a good reason for luminescence in minute protozoa. Perhaps it has sexual uses in some forms, or defensive purposes, or assists in keeping a shoal of creatures together.

General Comment

None is needed, really. When the Lord makes creatures or plants fit they are really fit [17,18].

Conversely, one thinks of the argument on "maladaptation," e.g. the horses before equus or the saber-toothed tiger. Apparently the early horses grazed side by side with equus for millions of years. That is good survival. And Gay-lord Simpson says of the saber-tooth that if its teeth made eating difficult yet it took 40,000,000 years to starve it to death. It was not *badly* maladapted![19]

Adaptation is a long cadenza full of harmonics and arpeggios. It demonstrates the virtuosity of God.

Bibliography

[1] Wilson, E. 0. –*Science* 129:643, 1959.

[2] Rudloe, J. –*Scientific American*, March 1961, p. 181.

[3] Adams, H. H.–chapter in *The Orchids*, p. 80, ed. by C. L. Withner, Ronald Press Co., New York, 1959.

[4] Withner, C. L. –*Ibid*, p. 317.

[5] Lane, C. E. –*Scientific American*. March 1960, p. 158.

[6] Farb, P. –*American Forests*, August 1962.

[7] Luking, K. H. —*Scientific American*, July 1963, p. 100.

[8] Evans, H. E. —*Ibid*, April 1963, p. 145.

[9] Ross, G.–see *Time*, December 6, 1963, p. 88.

[10] Frieden, E. –*Scientific American*, November 1963, p. 110.

[11] Rhodes, P. –*Lancet*, 1 :389, 1962.

[12] Parker, A. S. and Bruce, H. M.--Science 134:1049, 1961.

[13] *Time*– September 25, 1964, p. 58.

[14] *New Scientist*, September 10, 1964, p. 651.

[15] *Ibid*, July 16, 1964, p. 137.

[16] Nicol, J.A.C.— *Endeavour* 22:37, 1963.

[17] Shute, E. V._ *Flaws in the Theory of Evolution*, Temside Press, London, Canada, 1962.

[18] Idem– *Creation Research Soc. 1965 Annual*, p. 22.

[19] Simpson, G. G.– *The Major Features of Evolution*– Columbia U. Press, New York, 1953 p. 269.

Our Society of research scientists representing various fields of successful scientific accomplishment is committed to full belief in the Biblical record of creation and early history, and thus to a concept of dynamic special creation (as opposed to evolution), both of the universe and the earth with its complexity of living forms.

We propose to re-evaluate science from this viewpoint. Beginning in 1964, we are publishing on annual yearbook of articles by various members of the Society and thereafter a quarterly review of scientific literature. Our eventual goal is the realignment of science based on theistic creation concepts and the publication of textbooks for high school and college use.

1. The Bible is the written Word of God, and because it is inspired throughout, all its assertions are historically and scientifically true in all the original autographs. To the student of nature this means that the account of origins in Genesis is a factual presentation of simple historical truths.
2. All basic types of living things, including man, were made by direct creative acts of God during the Creation Week described in Genesis. Whatever biological changes have occurred since Creation Week have accomplished only changes within the original created kinds.
3. The great Flood described in Genesis, commonly referred to as the Noachian Flood, was an historic event worldwide in its extent and effect.
4. We are an organization of Christian men of science who accept Jesus Christ as our Lord and Saviour. The account of the special creation of Adam and Eve as one man and woman and their subsequent fall into sin is the basis for our belief in the necessity of a Saviour for all mankind. Therefore, salvation can come only through accepting Jesus Christ as our Saviour.

Dues are $5.00 per year and may be sent to Wilbert H. Rusch, Sr., Treasurer, 4090 Geddes Road, Ann Arbor, Michigan. Active membership at present is limited to scientists having an M.S. (or equivalent in experience), Ph. D., D.Sc., Ed. D., or M.D. Degrees. Sustaining non-voting membership is open to those who subscribe to the above statement of belief at $5.00 per year and includes subscription to annual and quarterlies.

The inner-core steering committee includes the following:

Thomas G. Barnes, D.Sc.; Physicist, Director, Schellenger Research Laboratories, Texas Western College, 2115 N. Kansas Street, El Paso, Texas

Clifford L. Burdick, M.S.; Geologist (consultant), 206 North Jacobus Avenue, Tucson, Arizona

Duane T. Gish, Ph.D.; Biochemist, Upjohn Company, Kalamazoo, Michigan

John J. Grebe, D.Sc.; Nuclear Physicist, 1505 West Andrews Drive, Midland, Michigan

R. Laird Harris, Ph.D.; Archeologist, Covenant College, St. Louis, Missouri

John W. Klotz, Ph.D.; Geneticist, Concordia Senior College, Fort Wayne, Indiana

W. E. Lammerts, Ph.D.; Geneticist, Germain Seed Company, Livermore, California — Chairman

Karl W. Linsenmann, M.D.; 312 East Main Street, Midland, Michigan

Frank L. Marsh, PhD.; Biologist, Andrews University, Berrien Springs, Michigan

Edwin Y. Monsma, Ph.D.; Biologist, Calvin College, Grand Rapids, Michigan

John N. Moore, Ed.D.; Science Education, Michigan State University, East Lansing, Michigan

Henry M. Morris, Ph.D.; Hydraulics and Hydrology, Virginia Polytechnic Institute, Blacksburg, Virginia

Wilbert H. Rusch, Sr., M.S.; Biology, Geology, Concordia Junior College, Ann Arbor, Michigan

Harold Slusher, M.S.; Geophysicist, Asst. Professor of Geophysics and Director, Kidd Memorial Seismological Observatory, Texas Western College, El Paso, Texas

William J. Tinkle, Ph.D.; Geneticist, Anderson College, 112 South St., Eaton, Indiana (retired) — Secretary

Willis L. Webb, B.S.; Chief Scientist, Environmental Sciences Department, U. S. Army Electronics Research & Development Activity, White Sands, New Mexico

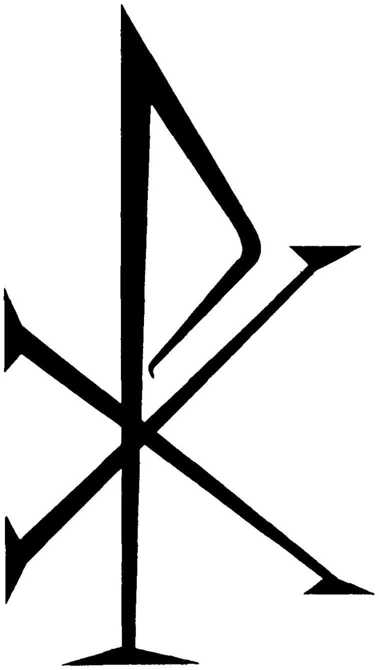
Paul A, Zimmerman, Ph.D.; Chemist, President, Concordia Junior College, Ann Arbor, Michigan

Annual $3.50, Quarterly $1.50

Subscription price $8.00

CREATION RESEARCH SOCIETY

QUARTERLY



Haec credimus:

For in six days the Lord made heaven and earth, the sea, and all that in them is and rested on the seventh. – Exodus 20:11

VOLUME 2 JANUARY, 1966 NUMBER 4

CREATION RESEARCH SOCIETY QUARTERLY

Volume 2 JANUARY, 1966 Number 4

EDITORIAL BOARD

Walter E. Lammerts, Editor
P. O. Box 496
Freedom, California
John N. Moore, Managing Editor
Department of Natural Science, Michigan State University
East Lansing, Michigan

Henry M. Morris . . . . .Virginia Polytechnic Institute, Blacksburg, Va.
John W. Klotz . . . . .Concordia Senior College, Fort Wayne, Indiana
William J. Tinkle . . . . .Anderson College (retired), Eaton, Indiana
George F. Howe .. ..Westmont College, Santa Barbara. Calif.
Thomas G. Barnes . . . . .Schellenger Research Laboratories, Texas Western College, El Paso Texas
Donald O. Acrey, Geophysicist . . . . Amarillo, Texas

TABLE OF CONTENTS

Page

Editorial Comment 3
Dues Announcement 3
A Scientific Alternative to Evolution 5
Thomas G. Barnes
Address before Texas Textbook Committee 9
Douglas Dean
Sample Textbook Committee Letter 12
Neo-Darwinism and Society 13
John N. Moore
The Age of Man 24
Robert W. Wood
An Attempt to Correct Radioactive Carbon Dating 28
H. L. Armstrong
How Reliable Is Carbon 14 Dating? 31
Exerpts by Editors
Adaptation at Birth vs. Evolution 32
Larry Butler
Meteorites, Man, and God's Plan 33
Larry Butler
Book Review: PHENOMENON OF MAN by Chardin 34
Samuel Wolfe

EDITORIAL COMMENT

As shown by the request of Chairman Barnes, the biological textbook committee is making rapid progress. In order to more adequately discuss the early history of mankind, Dr. R. Clyde McCone, Professor of Anthropology, California State College, Long Beach, Calif., has been added to the textbook committee, Any information, data, or suggestions (particularly by sustaining members who are teachers) will be welcomed by Dr. Barnes. Kindly write directly to him at 2115 North Kansas, El Paso, Texas.

Our secretary, Dr. William J. Tinkle, reports that our constitution has been approved by all except two of our voting members. Certification of this has been forwarded to our attorney who is applying for registration of our society as a non-profit organization. As soon as final approval is granted, we will publish the constitution, hopefully in our 1966 Annual and then we will be in a position to solicit funds for special research projects.

Articles in this January quarterly deserve special attention. In “A Scientific Alternative to Evolution,” Dr. Barnes indicates that creationists are more consistent in their logic than evolutionists, He shows that the three best established laws of science: the first law of thermodynamics, biogenesis, and the second law or entropy, demand a miraculous, special creation.

The article by Dr. Dean, though not documented, is a report of his plea to the textbook committee in Austin, Texas, October 14, 1965. It is especially interesting since he shows how evolution has been so thoroughly woven into the fabric of BSCS high school textbooks as to be the basic philosophy by which all facts are supposed to be related. As he points out, a high school student is so thoroughly indoctrinated that he is pre-conditioned to look at not only nature, but society, politics and even religion as but the expression of evolutionary principles.

Dr. Moore’s thoroughly documented lecture, “Neo-Darwinism and Society,” shows how modern empircism can be traced back to the doctrine of nominalism. Empircism, or the idea that only knowledge obtained by observation and experiment has validity, has come to dominate Western thinking. The modern evolution concept is a logical result of this philosophy. Once having adopted evolution, communism, relativism of morality and religion, and humanism are inevitable results.

Many scientists oppose the evolution theory because they believe it to be very poor science, in fact actually not science at all, but imaginative science fiction. After reading Dr. Moore’s paper perhaps we as a society may decide that we have a much broader field than science to cover, namely correction of concepts now popular in such disciplines as sociology, history, poli-

(continued, page 4)

DUES ANNOUNCEMENT

With this issue our publications for 1965 are complete. We plan a 1966 Yearbook dedicated in part to original research articles on Flood geology. Several articles on design in nature have already been received. A thorough going research review dealing with the famous Darwin finches is also scheduled.

With Dr. Moore as managing editor, our publications will be out on schedule and you may look forward to more in the way of illustrations. He has the services of a university serving private printer able to handle even mathematical symbols.

We hope members feel that progress is being made and invite articles and comments from both active and sustaining members. A steering committee meeting is scheduled for early March of 1966 and suggestions received will be given careful consideration.

Dues will continue at $5.00 per year and are now due and payable to our treasurer Wilbert Rusch Sr., 2717 Cranbrook Road, Ann Arbor, Michigan 48104. Other rates also remain as of last year. Kindly fill in the following form and indicate any change of address.

Name________________________________Address________________Zip Code

Voting Member Sustaining Member______Student Member___ Subscriber_________

Present Occupation ——————————.——Degrees and Honors

Comments:

Wilbert Rusch,
Treasurer

tics and even religion. In fact a complete reexamination of epistemology would seem to be needed.

Dr. Moore's paper merits most careful study by both our voting and sustaining members, and he will welcome comment and reaction.

In recent lectures by many members of Creation Research, the question of validity of radioactive dating, particularly radiocarbon dating was most frequently asked. Accordingly we publish four papers as an introduction to the subject. The one by Dr. Woods was submitted over a year ago and I regret losing temporarily his address as a result of moving here to our mountain home, He so clearly discusses the principles involved that it will serve as a good paper to open the subject,

Then Dr. Armstrong uses decreasing ages of the patriarchs presumably due to the accumulation of harmful mutations from cosmic radiation, as an index of the increase in radioactive carbon during the centuries following the Flood. The resulting increase in "apparent" ages of fossils as one approaches the time immediately following the Flood is startling.

Some way of testing his basic assumption of a causal relationship between cosmic radiation, increase in genetic load of harmful mutations, and decrease in longevity may well be devised. Perhaps comparison in percentage of bone defects in fossils or remains of modern man as compared to those dated at apparent ages of 15,000 to 20,000 years might give an independent basis of checking Armstrong's fascinating thesis.

Short papers by Wiant and Harris show fluctuations in age readings obtained by radiocarbon dating and discuss several of the reasons we have for believing that before the Flood the air contained more carbon dioxide and immediately after the Flood less than now.

These four papers though not a complete treatment of the questions involved in radiocarbon dating at least show that the method has limited validity. Dr. W. F. Libby, in a recent paper, has come to the conclusion that his system of dating rapidly loses its objectivity for dates past 5000 years.

We welcome a new contributor to our publications, Dr. Larry Butler, a young biochemist who recently obtained his degree from the University of California at Los Angeles. For some time I have been hoping for contributions dealing with various aspects of space research. His paper points out one of many increasing lines of evidence that we are living on a unique planet having the only organic life in the whole universe.

Much has been made of Teilhard de Chardin's ideas by well meaning but misinformed theologians who in their anxiety to harmonize science and religion grasp eagerly at any mystical theistic evolutionary concepts. We are indebted to one of our sustaining members, Mr. Samuel Wolfe, for his fine review of Chardin's *Phenomenon of Man.* He brings out the "feel" of the book and comes to the heart of the matter, namely that Chardin's God is hardly the Jehovah Elohim of the Holy Scriptures.

We are indebted to these men for their contributions and invite comment and articles on the many phases of nature and, as Dr. Moore points out, society as well, which are badly in need of evaluation from the Creationist point of view.

Walter E. Lammerts,
Editor

A SCIENTIFIC ALTERNATIVE TO EVOLUTION

DR. THOMAS G. BARNES
Texas Western College, El Paso, Texas

Introduction

One of my colleagues, a Ph.D. in philosophy, who has been reluctant to speak out publicly against evolution, privately expressed his concern. He said, "evolution is a *dogma* and not a science." This is a very serious charge because there are a great many disciples of Darwin in the scientific community. I believe, however, that a critical analysis of the literature on evolution justifies his statement.

A scientific fallacy in evolution may be seen by noting that its whole superstructure is built upon *extralogical* considerations. Extralogical considerations are the *extensions* of a proposition beyond the scope of true logic. *In evolution, an extralogical error occurs when phenomena with observable limits are cited as evidence in support of an unbounded proposition.*

A recent speaker on our campus defined evolution as "change." He then said, "change is fact; therefore evolution is fact." It soon became evident that the evolution he adheres to is far more than an observable change. He committed the extralogical error of defining evolution as an observable and employing it as an unlimited process. Fabrications upon that kind of premise are nothing more than figments of imagination.

The failure to give an adequate definition of evolution is a common failing among evolutionists; definitions implying observable are employed to frame speculative propositions. It is not uncommon, however, to find these same adherents to evolution charging that the remaining scientific community ignores the observable evidence.

No scientist questions the validity of *variety, change, and development within groups of living things.* The works of Luther Burbank, Walter Lammerts, and others in California have made it obvious that it is possible to breed new forms differing from parent forms. But it is also observable that this type of breeding is limited and invariably shows bounds beyond which it can not go. One would say in mathematics that the curves of these real processes have asymptotes which never cross finite boundaries, Evolutionists ignore those asymptotes.

After more than a hundred years of research in biology, evolution remains without a solid foundation. Dr. G. A. Kerkut states it this way, "the evidence that supports it (general evolution) is not sufficiently strong to allow us to consider it anything more than a working hypothesis."[1]

It is amazing that after all these decades of toil by scientists in numerous disciplines that evolution is still a mere hypothesis and not a law!

By now it should be clear that the evolutionary hypothesis is neither necessary nor sufficient. There are scientific laws which are much more successful in specifying the processes of nature. These laws can be checked by experiment and may profitably be employed as guides to invention and progress.

I therefore invite your attention to a *scientific alternative to evolution,* an alternative that has present processes which follow the basic laws of science.

Three Basic Laws

Let us consider three of the great laws of *science which are included in the present processes of the alternative to evolution.* These laws are: the *First Law of Thermodynamics,* the *Law of Biogenesis,* and the *Second Law of Thermodynamics.*

The First Law of Thermodynamics is also known as the Law of Conservation of Mass-Energy. It states that energy may have different forms (including mass); that it is possible to change from one form to another, but the total energy remains constant.

The Law of Biogenesis states that *life comes from life.* Every living organism came from some other living organism.

The Second Law of Thermodynamics states that there is an irreversible tendency for processes in a self-contained system to go toward lower order. This means an increase in randomness, disorder, and decay if the whole system is taken into account. That is to say systems run down hill, not up hill; they don't wind themselves up; they tend to run down. Biologist Harold Blum says, "One way of stating this law is to say that all real processes tend to go toward a condition of greater probability."[2]

Please remember his statement of this law (that real processes tend to go toward a condition of greater probability) because he is an evolutionist and we shall see later he points out the improbability of major evolutionary events.

Validity of the Three Basic Laws:

No laws of science are more firmly established than these three laws. They hold priority over all other laws of science. There are no known violations of these laws.

There was a 300 year debate on the Law of Biogenesis. During this period, maggots were claimed to be products of *spontaneous generation* of life and that was disapproved. Then, after the invention of the microscope, microorganisms were claimed to be evidence of spontaneous generation of life. In a series of masterful experiments, Louis Pasteur showed that there was no such thing as spontaneous generation of life.

Pasteur's sealed vessels, which contain a yeast infusion and pure air from the top of the Alps, can be seen even now in the Pasteur Institute Archives in Paris as a testimonial to that conclusion. After more than a century no life has appeared out of the inanimate. The Law of Biogenesis is accepted today by all reputable scientists.

Again I quote the aformentioned Dr. Blum in regard to the validity of the Law of Thermodynamics. He states, "for the Second Law is in a sense an empirical and pragmatic law which owes its acceptance to the fact that it has worked whenever it has been put to test."[3] Dr. Blum is one of the most scholarly evolutionists and as you see he agrees that there are no known violations of this law.

How do Evolutionists Handle These Three Laws (Particularly the Last Two)?

1. They are a real problem to an evolutionist.
2. Most evolutionists evade the critical issues exposed by these laws.
3. Some admit that evolution violates some phase of these laws.
4. Others make rhetorical claims of consistency.

The following admission by Professor George Wald illustrates the evasive rhetoric of evolutionists:

"As for spontaneous generation, it continued to find acceptance until finally disposed of by the work of Louis Pasteur–it is a curious thing that until quite recently professors of biology habitually told this story as part of their introduction of students to biology. They would finish this account glowing with the conviction that they had given a telling demonstration of the overthrow of a mystical notion by clean, scientific experimentation. Their students were usually so bemused as to forget to ask the professor how he accounted for the origin of life. This would have been an embarrassing question, because there are *only two possibilities: Either life arose by spontaneous generation, which the professor had just refuted: or it arose by supernatural creation, which he probably regarded as anti-scientific.*

"For my part, I think the only tenable scientific view is that life originally *did* arise by spontaneous generation, What the history we have just reviewed demonstrated is that spontaneous generation no longer occurs."[4] (Emphasis added)

So you see he only uses rhetoric–He has no scientific evidence to support his opinion. The Law of Biogenesis stands in his way.

Dr. Blum attempts to show that evolution is consistent with this law, but when he gets down to cases such as the origin of life he sees real trouble. I shall quote two of his statements to illustrate:

"I do not see, for example, how proteins could have leapt suddenly into being. Yet both Heterotrophic and Autotrophic Metabolism are, in modern organisms, strictly dependent upon the existence of proteins in the form of catalysts. The riddle seems to be: *How, when no life existed, did substances come into being which today are absolutely essential to living systems yet which can only be formed by those systems?* It seems begging the question to suggest that first protein molecules were formed by some more primitive 'nonprotein living system,' for it still remains to define and account for the origin of that system."

After mentioning an extension of Oparin's hypothesis by Horowitz, he further states: "-I must point out that Horowitz's hypothesis still leaves a seemingly unbridged gap in the story of the origin of life. For does not the invoking of natural selection postulate the prior existence of that for which the origin is sought? Natural selection itself seems only possible in systems having a complexity corresponding to at least that of the proteins. Who would venture much more than to suggest that time's arrow played an important role?"[5]

By time's arrow he means the Second Law of Thermodynamics which can point in only one way–and as we previously noted Blum himself specifies that direction as the direction of greater probability.

But it should be obvious that evolutionists will gain nothing by invoking the second law because it actually points down hill, not up hill; toward the probable, not toward the improbable.

I maintain that Blum is attempting to reverse the direction of time's arrow. Blum is a scholar and I do not mean to imply dishonesty. He continually admits his perplexing difficulty. For example he states in an addendum to chapter X of his book: "the more we study living systems the more we marvel at their beautifully ordered complexity; and we may estimate that the forming of such system (or even much simpler ones) by a single chance act would have an improbability of the order of a miracle, that could have happened only once in our universe."[6]

Let me summarize this point. Dr. Harold Blum has failed to account for evolutionary proesses including the origin of life by means of the Second Law of Thermodynamics. A careful reading of his book will reveal that he really admits that he hasn't proved the case. He stated that second law processes go irreversibly in the direction of greater probability. Then he identified some of the major evolutionary events as extremely improbable. As a further example he states that the probability of evolution of the human brain is so small that it "occurred" only once.[7] But if it is that improbable, surely the Second Law of Thermodynamics shows that it could not happen while that law is valid.

Constraints Imposed By the Three Laws

It is well to enumerate the constraints which are imposed by these laws. They are as follows:

1. *Matter and Energy can not be Created, While* the First Law of Thermodynamics is valid.
2. *Life can not be created out of the inanimate, While* the Law of Biogenesis is valid.
3. *An increase in ordered-complexity can not happen* (in a self-acting system),

   While the Second Law of Thermodynamics is valid.

These constraints are not mysterious. They are observable and common sense tells us to expect them. They remind us that you can not get something for nothing. Extralogical considerations can not over-ride the cold facts of nature. Nature's basic laws spell out these specific constraints.

Mankind has always had its would-be inventors of perpetual motion machines, but each one of them has had to eventually face fact: The observable constraint of the First Law of Thermodynamics.

Mankind has always had its advocates of spontaneous generation, and today there are those who make bold claims that scientists will fabricate life itself within the next ten years. May I recommend that you not buy any stock in their proposed life factory, They must face fact: the observable constraint of the Law of Biogenesis.

The validity of these three laws is observable beyond any doubt today. One might ask then how did anything get started if these constraints prevent such beginnings. That leads us to inquire about the time sequence of the origin of these laws.

Logical Time Sequence of the Laws

A logical time sequence of the origin of these laws is self-evident. It is as follows:

1. *The First Law of Thermodynamics began after the origin of Mass and Energy.*
2. *The Law of Biogenesis began after the origin of Life.*
3. *The Second Law of Thermodynamics began after the existence of a fully wound-up system with Living Maturity.*

It is foolish for one to claim that our present laws can be employed to explain the beginnings of the physical universe, or living matter, or man himself. These laws specify their own limitations and make it obvious that their origins are indeterminant by science *per se.*

It is difficult for me to see how one can question the logic of the above mentioned time sequence of the beginnings of these laws. That sequence must hold for the laws to be selfconsistent.

Evolutionists make the mistake of trying to invoke present natural phenomena to "explain" the winding up processes and the beginning of life and even man himself.

There is another interesting inconsistency in evolutionary logic. Evolutionists try to date a hypothetical winding-up process by a running down radio-active clock. Times's arrow can not point in *both* directions.

The question then arises, Is there a scientific alternative to evolution that is consistent with the time sequence of the origin of these laws?

Special Creation Makes the Time Sequence of These Three Laws Consistent

It is clear that the processes involved in any of these origins lies outside the realm of science. Indeterminacy principles are common place in science; true scientists always acknowledge the limitations of science. Postulates at any beginning stage are of necessity arbitrary ones. There is nothing unscientific then about postulating special creation for the beginnings. The scientific virtue lies in the consistency which can be shown to follow after we get into the time frame represented by present laws.

The postulates of special creation make the time sequence of the three laws consistent, That time sequence runs as follows:

1. The creation of the physical universe preceded the First Law of Thermodynamics.
2. The creation of life preceded the Law of Biogenesis.
3. A fully wound-up biophysical world preceded the Second Law of Thermodynamics.

All of the present observable processes are consistent with that type of beginning. This makes a strong scientific base, Everything runs toward the probable.

Perspective of This Alternative to Evolution

The perspective of this alternative to evolution is as follows:

1. *The domain in which science is indeterminant is satisfied by special creation.* To be sure that is miraculous, but any other beginning must lie in the realm of metaphysics, There is certainly no more logic in beginning with the metaphysical hypotheses of a "materialist" than to begin with the postulate of a God of creation. This is particularly true when one realizes that present scientific processes are more consistent with a system that begins with special creation.
2. *Present processes obey the established laws of science.* These processes behave as if a full blown system was initiated, a system such as provided by special creation. No new matter and energy are being created nor are they needed. Life does come from life. There is a need for conservation because of the tendency for processes to go toward disorder and decay.

The Fruits of This Alternative to Evolution

This alternative to evolution leads to *progress with confidence* because it deals with present processes that are founded on the *Laws of Science*, There is no danger of being hoodwinked by artifacts. Whereas evolution is based on extralogical considerations that can only be supported by unreliable evidence. For example, the Piltdown Man was exhibited in the British Museum as basic evidence of evolution. But the famous Piltdown Man was really the fabrication of a clever trickster who had fitted an ape's jaw to a chemically aged human cranium. Yet it took 45 years to expose this fraud.

The *realistic Laws of Genetics* can be credited to this alternative, They give no comfort to total evolution. Dr. Walter Lammerts states that evolutionists are misled in plant breeding because they are accustomed to thinking that immense time may get results, whereas the process can be accomplished in a limited number of generations or not at all.[8]

Finally, preventive medicine developed out of the alternative to evolution. In reality, Louis Pasteur laid the foundation of preventive medicine when he established the Law of Biogenesis by empirical means. He demonstrated that bacteria come from other bacteria and that bacteria pass from one individual to another. His effort to arrest this inexorable downgrading process in living systems can be attributed in part to the importance he placed on the *tendency toward disorder,* that is to say the principle embodied in the Second Law of Thermodynamics.

This alternative to evolution has always been sound and it will continue to produce fruit because it is based upon a foundation that will not fail.

References

[1] G. A. Kerkut, *Implications of Evolution,* Pergamon Press, 1960, p. 157

[2] Harold Blum, *Times Arrow and Evolution,* Torchbook Edition, Harper and Brothers, New York, 1962, p. 5

[3] *Ibid,* p. 6

[4] George Wald, *Frontiers of Modern Biology* in *Theories of Origin of Life,* Houghton Mifflin Co., 1962, p. 187

[5] Blum, pp. 170 and 171

[6] *Ibid,* p. 178A

[7] *Ibid,* p. 212A

[8] W. E. Lammerts, "Neutron-Induced Variation of Roses," *Journal of the American Scientific Affiliation,* March, 1961.

ADDRESS BEFORE THE TEXAS TEXTBOOK COMMITTEE
AUSTIN, TEXAS, OCTOBER 14, 1964

(Protesting Adoption of Three High School Biology texts written by the Biological Sciences Curriculum Study [BSCS] of the American Institute of Biological Sciences)

DR. DOUGLAS DEAN
Pepperdine College, Los Angeles, California

Mr. Chairman, ladies and gentlemen of the Textbook Committee, I count it a great pleasure to be able to appear before you to stand for the truth, facts, and principles, I am certainly opposed to these three books; not because of particular religious belief, but primarily because I believe the books to be unscientific. I know that today scientists are interested in getting the facts across to the students.

I am concerned with the presentation of the facts of science and not with philosophies of science, the category to which evolution belongs. As has been demonstrated in our briefs evolution is taught as a basic philosophy in these books; whereas in practically all college textbooks, that I know of, it is not taught as the basis of the entire book.

It would seem to me that, in the writing of these books, the 70 writers, who finally came together, started out with the assumption that evolution is true and that no intelligent biologist denies that fact of evolution. I personally had several biologists and college professors try to get me not to come and make this appearance. They would not come and make an appearance before you because of adverse publicity, because their presidents and deans of the colleges forbade them to come.

I am glad that my college president encouraged me to come to this meeting today. Why don't more biologists speak up in opposition to these things that many of them know are not true? It is because of the pressures that are being exerted upon them. Pressures where they are required to believe that evolution is true.

Biology Students Polled

Recently, in Los Angeles, I polled a number of high school students who have been using these versions of biology. Some were very religious and some were not religious at all. I asked them, "What was your opinion of the textbooks? Did you get the idea that evolution is a truth or is it just a theory?" And by far the majority, 98 percent, of them have gotten the idea that evolution is a fact. Read the books and you cannot help but get this idea, You cannot teach with these three books without getting the idea that evolution is a basic fact.

I want to protest the theory of evolution being taught as a fact. Evolution is unscientific as taught in these textbooks, I believe in evolution according to Webster's dictionary definition of it. I do not believe in evolution as taught in these textbooks. Dictionary definitions define evolution as "an unfolding, a gradual revelation, of life through genetic mechanism, through changes, through variation." Yet, the idea is not contained in the dictionary that man has evolved from some fish-like animals or that birds have evolved from reptilian form, or that animals in general are descendants from lower forms.

Darwin, even, in the first edition of the *Origin of the Species* said that possibly there were eight or nine basic forms from which life had evolved into the complex variety we see around us. We can indeed talk about the origin of the horse because I believe we have evidence for considerable change as shown by the fossil record of many centuries, Thus in various series of strata ranging from Eocene to Recent, a number of species of horses showed definite changes. When these changes are shown by a successive series of fossils occuring in strata in layers superimposed on one another in *one locality* the inference is strong that the succesive variations are genetically related to a common ancestor.

We have the evolutionary account of the origin of perhaps 25 species of finches. These show variation comparable to that of the various tribes of Indians and Darwin rendered a great service in showing by a study of these finches of the Galapagos islands, that naturalists of his day had far too static a concept of species. This sort of variation or micro-evolution, as college textbooks call it, I can believe in since it can be demonstrated.

I believe in micro-evolutionary fact, but these books depart from micro-evolutionary fact, and go on to say that man has descended from some anthropoid form, I see a chapter entitled "Man and Animal" or the "Evolution of Man," and then see presented the idea that because other animals have evolved man had to evolve. Authors of books admit that the fossil evidence for evolution of man is very poor; but, because evolution has been demonstrated in other animal forms, it implies that we naturally have to assume that man himself has also evolved. But even as horses showed "evolution" or rather variation into many races of horses, and finches into other minor varieties of finches, so man has only "evolved" into the various races and tribes of mankind!

Scientific Theories Change

Mention was made earlier this morning that we live in a society in which we can have theories in one generation being superseded by theories in later generations, and I am very glad of that. When Darwin first presented the *Origin of the Species*, the great idea was natural selection or survival of the fittest. Yet I find very little mention of this in biology textbooks today. Why? Because we know that the idea of natural selection, the idea of survival of the fittest, has not proven that evolution has occurred.

Following that came the idea of comparative anatomy; that, because animals are similar in anatomy, they had to evolve from a common ancestor. Yet I could name a number of colleges and universities today, and even one medical school where comparative anatomy is not required any more. Why, because they realize that study of it is a waste of time. Thus we plague the student with having to learn theories and details about theories which are not essential to that person's education. And in most of our books today comparative anatomy has been relegated to a very minor position. I am speaking primarily of our college textbooks now. It used to be taught along with the idea of blood seriology, and physiological similarities between animals. However as one book observed, man is more related to the alligator than any other animal if one considers only similarities in blood; and yet I know of no textbook that places particular emphasis on the physiological methods to prove evolution any more.

As these books point out, the greatest so-called proofs of evolution are the fossil record, radio carbon dating, and genetic mechanism. Fossils have been a subject of evolutionary study for a long time, but it has come to our knowledge recently that fossil studies are not getting the job done. There is something wrong when a geologist will say that this rock is several million years old because it contains the remains of an animal which is that old. Then, when you take the animal over to the biologist, he says the remains of the animal are several million years old because they are found in rocks that are so old. Is that kind of reasoning proof of the evolutionary theory? And yet we are led to believe in these textbooks that the fossil record has shown that evolution, as taught in these books, has occurred. The rock record does show the horse has evolved, bear that in mind. It does show that cat has descended from some basic catlike ancestors. It does show that many of the birds are interrelated, but it never shows a reptile evolving to a bird. These gaps have become wider as we have studied the fossils.

Radio Carbon Dating

In the matter of radio carbon dating and fossil dating, these books lead the student to believe that life has been on this earth for millions of years. It may have; I don't know. I would not be one to say that the coal deposits and the petroleum deposits were formed three hundred million years ago. It is rather interesting to note that the Petroleum Institute at Victoria, New Zealand, has recently come up with information showing that our petroleum deposits were formed six or seven thousand years ago.

It is rather interesting to note that radio carbon dating of petroleum will show an age of six or seven thousand years. Why isn't this body of information incorporated into these books? Why is the student told that these things originated three hundred million years ago, and the evidence that it originated a few thousand years ago is not presented to the students?

Consider the dealings with fossil men such as *Zinjanthropus. Zinjanthropus* is presented as being the oldest ancestor of mankind. This is the fossil man found in Africa and reported in The *Reader's Digest* for public consumption. Now the age of *Zinjanthropus* was determined in the University of Southern California, Los Angeles, by dating *the soil on rocks in which the bones were found.* The bones, *themselves, were not dated.* I believe that this earth has been here longer than that *Zinjanthropus* fossil. It is misleading *to say that because the earth in which that fossil* is embedded appears to show an age of a million, eight hundred and seventy-five thousand years, then the fossils in it are also that old.

I wonder how many of our high school students this fall are aware of the statement of Dr. Leakey in an April issue of *Time* magazine where he has admitted under pressure that *Zinjanthropus* was not human, but rather an Apelike animal, And yet in these books, the implication is that he is the ancestor of man. And now Dr. Leakey, himself, is rather doubtful of it.

Many people are led to think again that radioactive carbon, thorium, strontium, and uranium dating help establish the fact that dinosaurs disappeared somewhere around 120 or 150 million years ago. And yet, we read a review in the April 15 issue of an important publication put out by a very prominent scientific laboratory in our nation, discussing the story of *Zinjanthropus* and the radioactive dating used with this final conelusion: that this is a theory only *worth its weight in theory.*

Our students are taught that there is no doubt that dinosaurs disappeared millions of years ago. They are taught that man was not contemporary with the dinosaurs; and, yet, there is considerable evidence that man and dinosaurs walked on the face of this earth at the same time. I doubt that many in this room today are aware that only a few miles from this city of Austin is found a river bed in which we find the imprints of dinosaurs and man, side by side in the same river bottom. Yet scientists would have us think that dinosaurs lived a hundred million years before man ever set foot on the earth, before man had "evolved."

Evolution Is Basic Philosophy

These are the kinds of things that are being taught in the evolution theory as presented in these books. Evolution is taught as the basic philosophy upon which all biology has to be based. These books referred to it as an idea, but the idea is taught as a fact, I maintain that a biased point of view is presented to the student, This was verified by my interview with students. They were led to believe that evolution is the only alternative.

The majority of books on evolution make numerous assumptions. The material presented in the later pages of the book is treated as fact based upon these assumptions.

One author has pointed out that in evolution there are several assumptions. But mention of these assumptions, (seven to be exact), by the evolutionists is completely avoided. Most of our college books deal with a more scientific and mathematical part of "evolution" called population genetics, actually the term should be "population variation."

In contrast to the Theory of Evolution, the Atomic Theory in physics and chemistry can be documented in many ways. We can substantiate it. Many industrial products have been developed from principles based upon these assumptions. Nothing has been demonstrated or proved which is based upon the assumption of the evolution of life from some simple form.

We live in an age in which it is not fair, I believe, to present a one-sided argument. I am not advocating that we present only the creation account or some other alternative to it, we cannot substantiate that one either. It is only fair to say that none of the ideas of the origin of life can be documented.

We cannot prove the evolutionary account, neither can we prove the creation account.

These books go into a long detailed discussion on the origin of life. They make an assumption that life originated in the ocean and then pick out somebody like Oparin and say that his theory is the best one to accept until something else comes along, and yet other ideas are not mentioned.

They also point out the idea that life originated only once. This is something that we cannot approve as we cannot prove it. They make the assumption that viruses, bacteria, protozoa, and all the higher animals are all interrelated; and yet, this cannot be established. It cannot be proven on the basis of demonstrations in the laboratories today. It cannot be shown from the fossil records. It is merely projected as theory; all other ideas are ridiculed and thrown out and regarded as scientific heresy.

It is scientific heresy, in the biological world today, to believe in anything other than evolution as taught in these textbooks, And yet, members of the Textbook Committee, don't you think that it would be a good principle for us to encourage the study of scientific heresies? There is always the danger that the reader might be seduced by one of these heresies, but the danger is neither as great nor as serious as the danger of having science presented in some type of mental straightjacket as our young people are being brought up when they use these three books.

If we will carefully pursue these heresies, I believe that we can come to greater understanding of the facts of the evidence against or for a theory. And, if there is no satisfactory theory to take the place, then we should say that we do not have the answer. I believe that these books ought to emphasize that we do not have the answer. I believe that these books ought to emphasize that we do not have the answer if they are going to be used.

Genetic Mechanism

There is a theory that states that many animals can be observed over a course of time to undergo variation. This theory can be examined scientifically and it can be observed to be a fact that animals do undergo extensive variation. This might be referred to as a special theory of evolution, or we might refer to it as the differentiation of animals. Cats have differentiated; birds have differentiated; rabbits have differentiated into many different kinds, many different "species," many different varieties. However, we do not know all of the scientific evidence, or information as to what causes these changes to come about.

In the field of genetics, we are endeavoring to find out what causes variation, what causes change.

Today the scientist considers genetics to be one of the basic fundamental sciences supporting the idea of evolution. And yet, how many students are aware that when some scientist says that life has evolved through mutation, others agree with the late, famous scientist, Richard Goldschmidt, who stated in his book, that mutations are one hundred percent detrimental? How could one hundred percent detrimental mutations ever evolve life as presented in these textbooks? The scientific evidence is that a mutation is always detrimental; and I am still looking for the one that is advantageous. It might be advantageous to man as far as his consumption of food is concerned, but to the animal or to the plant itself, the mutation is always detrimental and nothing has ever been shown contrary to that in the realm of genetics. And yet mutations are used as a fundamental truth that evolution has occurred.

The Basic Question

I think the question that any Textbook Committee faces is not whether or not creation is right or wrong, but the idea of whether or not the students are being taught the truth in these books. Some have said, "Why haven't you launched an attack against other books?" Because other books have not been so emphatic in their presentation of evolution.

Practically all books that I know of, including college textbooks, will have a few chapters devoted to evolution. It is up to the discretion of the teacher in the classroom as to whether or not those chapters are taught, I personally teach evolution in my classes as a theory. We read those chapters and we study them and talk about them.

Yet, when a book is written from the standpoint that every chapter, almost every page of it is based on the idea of evolution, it doesn't matter whether or not the author has said in the beginning, the back, or the middle that it is a theory. Making an apology for it does not cover the fact that the idea of evolution is paramount throughout the book. When the student has finished with the book, he definitely has the idea that evolution from simpler forms of life has occurred; that he himself is classified as an animal and has animal characteristics. This is another point I object to in the book.

In the Chapter "Man is an Animal," emphasis is placed on the similarity between man and animal.

What I would like to know is, why emphasis is not placed upon the differences between man and animal? The student comes out of a course using these books, knowing how man is similar to an animal, but he has no idea of how man is different from an animal. And yet, biology teaches us that one basis for classification is pointing out the differences in animals.

Because authors of these three books have assumed that evolution is the most important principle in biology and have written books around that idea, they lead the student to believe that there is evolution and that there can be no other alternative. I believe that these three books ought to be rejected. These books are beautiful textbooks. I wish they could be rewritten without these ideas of evolution being presented to the unassuming student in such a way that he comes out believing that they are facts. I thank you.

SAMPLE TEXTBOOK COMMITTEE LETTER

November 26, 1965

To All Textbook Committee Members
Creation Research Society

Dear Committeeman:

I am enclosing two more of Rita Rhodes Ward's high school tests in her class which uses the BSCS Yellow Version. Also enclosed are excerpts from two of the reference books recently added to the high school library. This gives additional evidence of the total propaganda our high school students are encountering from the evolutionists.

I am looking forward to receiving the outline from each author Dec. 15. I will then Xerox the total outline and send to each author.

We are all looking forward to the outlines and the first draft which is scheduled for February 15.

I had a fine meeting with Dr. Davidheiser and Dr. Dean in California at the recent Creation Seminar. Dr. McCone also participated in this seminar and did an outstanding job. He is an anthropologist and has agreed to write some of that up for this text. I have asked Dr. Dean to coordinate that with his section on the Biology of Man.

Surely we have a great team on this important job. May all of this work help our next generation be led in His light.

Sincerely yours,
Thomas G. Barnes,
2115 N. Kansas St.,
El Paso, Texas

NEO-DARWINISM AND SOCIETY

DR. JOHN N. MOORE
Michigan State University, East Lansing, Michigan

Introduction

At a time when many scholars still write in optimistic manner regarding Western civilization (and even possible accommodations with Communistic States), other scholars write about the dissolution of Western civilization as if there was once a Western tradition of a more or less fixed and complete body of belief and practice.

One such chronicler of changes in Western culture would be the late Professor Richard Weaver of the University of Chicago, who expressed himself on the dissolution of the West in 1948 in his book entitled, *Ideas Have Consequences*. On his first page Weaver wrote:

> In considering the world to which these matters are addressed, I have been chiefly impressed by the difficulty of getting certain initial facts admitted. This difficulty is due in part to the widely prevailing Whig theory of history, with its belief that the most advanced point in time represents the point of highest development, *aided no doubt by theories of evolution* which suggest to the uncritical a kind of necessary passage from simple to complex. Yet the real trouble is found to lie deeper than this. It is the appaling problem, when one comes to actual cases, of getting men to distinguish between better and worse.[1] (Emphasis added)

Thus Weaver stated the position[2] that we must be ever conscious of avoiding the enticing point of view that present conditions are the best conditions, because we have "progressed" so far from previous undesirable, even primitive conditions. In other words, Weaver would call attention to the fact, as he saw matters, that we have not really progressed in Western civilization, and must objectively compare the repeatedly immoral inter-personal relationships of human beings, today, with those of past centuries, and so on back through recorded time, If we are completely honest with ourselves, we must admit that material advancement has far out-stripped spiritual advancement.

Weaver felt there are too few modern thinkers who care to examine their lives. There are too few modern thinkers who will acknowledge the rebuke which comes of admitting that our present state *may be* a fallen state from that of Edenic innocence. Actually one can assert that many, many so-called intelligent men, for at least four centuries, have been their own priest, and their own professor of ethics as well. The consequence has been an anarchy in "intellectual" circles which, today, threatens even that minimum consensus of value demonstrable as necessary for the continued existence of the political State.

Many people seem to be blind to the significance of a change, a profound change, which has occurred in the last four centuries, in man's conception of reality. Many intellectuals, who have not discovered that a world view is the most important aspect of man's ideas, will readily scoff at attempts to profit from experiences of those of the past, Such scoffers quite commonly turn to *argumentum ad hominem* in order to consciously or unconsciously discredit him who would look to the past for guidance in the present or for the future.

Nevertheless, careful analysis brings out the fact that it was the influence of proponents of the doctrine of nominalism which contributed immensely to changes in man's world view, i.e., his conceptions of reality. It must be remembered that the proponents of the doctrine of nominalism insisted that only particulars or individuals exist; and hence, nominalist denied that universals have a real existence. Experience, then, to the nominalist, is *the* source of knowledge.

The impact of nominalism tended to leave universal terms mere names serving our convenience to form labels. Thus the reality perceived by the intellect, or given by revelation, was banished from many intellectual circles. This brought about the practical result of positing that *the* reality is that which is perceived by the senses. In a word, the affirmation of sense perception as that which is real was a turning in the road toward modern empiricism.

But let us follow in skeletal outline Weaver's consideration of this train of circumstances in intellectual circles in the West since the development of nominalism. Changes have proceeded in accordance with perfect logic after the entrance by many thinkers of Western civilization upon a road completely dependent upon the viewpoint of reality which gave rise to modern empiricism. Actually, under this world view of reality, the pursuit of knowledge by observation and experiment as the only source of *real* knowledge became a map to give direction to, and be a basis for, formulation of policies of men. The great difficulties of today no doubt stem in part from this absolutizing of empirical knowledge.

Train of Circumstances

The denial of universals carries with it the denial of everything transcending experience, such as absolute truth, God, absolute moral values. The denial of everything transcending experience means inevitably the denial of truth entirely. Thus there is no truth toward which we seek, but only the immediate experience of the moment.

With the denial of absolute, objective truth, there is no escape from the relativism of the old Greek adage from Protagorus, "man the measure of all things." By such an adage men are convinced that they might realize themselves more fully in their autonomous intelligence.

The profoundness of such a change of belief made necessary, eventually, changes in every concept of man and there soon emerged a "new" doctrine of nature. Where once man's concept of nature had been regarded as imitating the thoughts of the Creator God, and as imperfect representations of true reality known only by God, nature was looked upon as containing the principles of its own constitution and behavior. From this flowed the whole thesis of natural laws and even nature's God.

It follows that if physical nature is the totality of reality, and if man is of nature, it is impossible to think of man as suffering from constitutional evil or some original sin. Rather the defections of man must now be attributed to his simple ignorance or some kind of societal deprivation. Hence the clear deduction to the corollary of the natural goodness of man.

But there is more, because, if nature is a self-operating mechanism, and man is an intelligent animal adequate to his needs, then next in order is the elevation of man's intelligence. It became quite proper to regard as the highest intellectual vocation those methods whereby man interpreted data supplied by his senses; ergo, the careful study of nature known as science was above all philosophy– *the height* of human intelligence. From this position came the thinking of Hobbes and Locke and eighteenth century materialists and empiricists, who taught that man needed only to reason correctly upon evidence from nature.

By this time the religion of Western civilization began to seem ambiguous in dignity and meaning. One solution to the ambiguity was deism, which makes God the outcome of an intellectual reading of nature. But in denying antecedent truth, this religion left each man to make what he could of the world open to the senses; and "humanized" or "humanistic" religion followed at close marching order in these rapid changes of consequences to the world view based upon reality rooted in the senses alone.

The philosophy of materialism gained ascendancy, and thus men soon found it necessary, in fact imperative, to explain man by his environment. Such an explanation was the work of Charles Darwin and others of the nineteenth century. According to the views of some analysts the very pervasive character of these changes is made manifest by the fact that several other students of nature, such as Alfred Wallace, T. H. Huxley, Asa Gray, Ernest Haeckel, were arriving at similar explanations in the field of biology when Darwin published his *Origin of Species* in 1859.

If man was ensconced firmly in nature, it became necessary at once to question the fundamental character of his motivation. If the question of human origin was decided in favor of scientific materialism, then biological necessity, issuing from the concepts of struggle for existence and survival of the fittest, became the cause of causes. With the acceptance of biological necessity as the basic cause of the moulding of man entirely in consequence of environmental pressures, there follows a logical obligation to extend the same theory of causation to the institutions of man and human society.

Nineteenth century social philosophers were quick to use Darwin's formulations as powerful support for their thesis that human beings act always out of economic incentives. Therefore men like Karl Marx and the French socialists completed the abolishment of freedom of will on the part of the individual. Marx used dialectic materialism to reduce the full pageant of history to the economic endeavors of individuals and classes.

Consequently, man as created in the divine image of God, was replaced by man the wealth-seeking and wealth-consuming animal. The ground was laid for the apparent imminent eclipse of the omnipotent God by the omnipotent political State, under the direction of the elite intellectual few who in their autonomy could control eventually nature, and man in nature.

Fairly recent consequences of change in world view include development of psychological behaviorism and psychoanalysis which deny freedom of will, the very existence of mind, and place in question such elementary means of direction of human conduct as instincts with the possible reduction of all motivation to naturalistic "drives" or "urges" of sexual behavior. Converts to this theory have been fewer in number than for other theories of man in nature but they are only logical extensions of the thinking of those who embrace material causation.

Through means of psychological behaviorism man is left with nothing that transcends his experiences. He has no values and no morals; and his life becomes sheer practice without theory.

Of course modern man secretly hungers for truth, truth that will set him free, but he consoles himself with the thought that life should be experimental. Modern man feels he should try all ideas since he will acknowledge no basis or yard stick by which to evaluate any idea, except trial and error, which is strictly groping in the dark —an essentially *irrational* animal on the loose in nature.

Thus modern man concentrates on action, on doing, on method. He meets his problems with *ad hoc* policies. In net, modern man is pathetically susceptible to making all the mistakes of those who have gone before him simply because he does not know enough history, enough tested principles which approximate absolute truth; in short, transcendent values of the Word of God.

Hence the speechlessness of some men of culture still extant in Western civilization when they are forced to witness the further rending of once transcending values of the worth of human life, full application of talents, sanctity of relations between male and female, and surrender of remnants of freedom of choice in exchange for decision-making by sycophants and self-less calculating machines.

Whether it is the rantings of the political demagogue or the uninhibited college or university student, the man of culture understands what is being done, but he cannot convey his understanding because he cannot convey the idea of sacrilege in the terms of materialism or scientific naturalism. As Weaver says:

> His cries of *abeste profani* are not heard by those who in the exhilaration of breaking some restraint feel that they are extending the boundaries of power and of knowledge.[3]

To bring this viewpoint even closer I will quote briefly from a letter which appeared in a posthumously published book in 1964. I refer to Whittaker Chamber's book, *Cold Friday*. Chambers was one intellectual who learned from the professors of his youth the materialistic world view, and then went all the way logically and became a Communist in full identification. Chambers knew of machinations of Communists in this country and was fully yielded to Communist Party discipline for a major part of his life. In writing about extant situations in 1954, he said:

> I no longer believe that political solutions are possible for us. I am baffled by the way people still speak of the West as if it were at least a cultural unity against Communism though it is divided not only by a political, but by an invisible cleavage. On one side are the voiceless masses with their own subdivisions and fractures. On the other side is the enlightened, articulate elite which, to one degree or other, has rejected the religious roots of the civilization—the roots without which it is no longer Western civilization, but a new order of beliefs, attitudes and mandates. In short, this is the order of which Communism is one logical expression, originating not in Russia, but in the culture capitals of the West, reaching Russia by clandestine delivery via the old underground centers in Cracow, Vienna, Berne, Zurich, and Geneva. It is a Western body of belief that now threatens the West from Russia. As a body of Western beliefs, secular and rationalistic, the *intelligentsia of the West* share it, and *are therefore always committed to a secret emotional complicity with Communism* of which they dislike, not the Communism, but only what, by chances of history, Russia has specifically added to it–slave-labor camps, purges, MVD *et al.* And that, not because the Western intellectuals find them unjustifiable, but because they are afraid of being caught in them. If they could have Communism without the brutalities of ruling that the Russian experience bred, they have only marginal objections. Why should they object? What else is socialism but Communism with the claws retracted?[4](Emphasis added)
>
> (Note: Chambers said retracted claws, *not* removed!)

Chambers put the matter very boldly, very starkly. And now the introduction of this paper can be closed since a backdrop has been provided for that which follows. But before proceeding, an assertion of the main thesis of this paper is in order. It is asserted categorically that presentation of evolution as fact, i.e. as observable, in educational institutions at any level across the surface of this globe has been used by free-thinking scholars to implement a type of indoctrination of the intelligentsia of the various societies of Western Civilization. The purpose of this paper is to develop this thesis with some documentation. Always the discussion of points presented is done against the backdrop provided in the Introduction regarding changes in the view of reality by many scholars of Western civilization.

Neo-Darwinism

Objective discourse is completely dependent upon clear definition of terms used. Responsibility for such definition rests in respectable circles of intellectual analysis with the author. Therefore writing from the tradition of getting the facts, that is the tradition of scientific method which I represent in the classroom, I wish to make abundantly clear my meaning of terms, such as Neo-Darwinism, evolution, and call attention to ambiguity of definition of terms.

According to some authors[5] a modern theory of evolutionary causation can be variously termed the *synthetic theory of evolution,* the *biological theory of evolution,* and the *theory of microevolution.* Darwin formulated his ideas on the causation of evolutionary change by using some combination of the concept of natural selection, concepts of Lamarck, and his invention to explain variation, which he discussed under the term pangenesis.

Thus Darwinism, which is the term used to refer loosely to Darwin's formulations by his successors, had to be modified when Gregor Mendel's cogitations on explanations of variation were available around the turn of the century. So for the last fifty to sixty years the terms *Neo-Darwinism,* and even *Modern Synthesis* have been in vogue to refer to organic evolution.

One can write quite properly today of a modern synthesis of ideas because Mendelian genetics and biochemical analysis of DNA and RNA have been added to the natural selection idea of Darwin with the omission of Lamarckian suggestions and Darwin's ideas of pangenesis. The above in this section is intended to point up the fact that modern theory on evolutionary causation is discussed under various terms.

What then is evolution? According to classical meaning and to usage which Darwin finally worked out in his last editions of *Origin of Species* and later publications, evolution is the idea that organisms have come into existence as the result of changes in preexisting organisms.[6] Sometimes evolution is defined as transmutation of species,[7] but this carries the same meaning as the classical sense.

Or the concept of organic evolution may be represented as constituting the position embodied in these three propositions: (1) all living species are descended from different species that have lived in the past; (2) the differences that exist between living species have arisen slowly and gradually over long periods of time; and (3) the causes that have acted in the past to change one species into another continue to act today.[8] Clearly, then evolution involves the change of one species or form into another species or form.

It is true that many biologists will define evolution as any genetic change or modification. This is broad and raises the logical question, how does this definition differ from the meaning of the term variation? Ambiguity does obtain in the writings of some scientists and even in their oral presentations. At least one physical anthropologist admitted in private conversation that he used the terms "variation" and "evolution" in an equivocal manner. That is not the intent of the author of this paper.

Evolution shall be change of one form or kind into another form or kind with increasing complexity. *Variation* shall be these changes of hereditary or genetic character which are involved in modification within the limits of species or form. *Mutation* is understood to be the term used to refer to postulated changes of genie material; the very elements of varietal modification.

Historical Interlude

We shall go on to some examination of the relation of the concept of evolution to specific areas of man's intellectual endeavors. But first let us return to the train of circumstances of change in concepts of reality, as drawn from Weaver's discourse in explanation of his title that ideas have consequences.

As that train of circumstance was recited, I think we uncovered a crucial point to the main purpose of this paper on "Neo-Darwinism and Society." That crucial point was the effort by Charles Darwin and so many of his scientific contemporaries to explain man in his environment, to place sense-conscious man in his environment of sensual experience.

From the time of Darwin on to the present, a type of indoctrination was implemented by freethinking scholars. In fact from Darwin's day to the present an acceleration in the process of such implementation can be identified. As followers of Darwin explained man in his physical environment—as just another animal—just the result of biological processes; then man became fully physical to them. That is, man was subsumed under the philosophy of materialism or positivism. Even his values, morals, and instincts, which Darwin still recognized, were resultants of biological processes.

Men of the mid-nineteenth century had been seeking explanations—explanatory systems—some system without God included. After 1845, great strides were made in formulation of fundamental theories relating to nature and the environment of man. It became a daring philosophical experiment, as Philip P. Wiener points out in his book, *Evolution and the Founders of Pragmatism,*[9] to study nature and make it intelligible *without leaning on a providential intelligence.* Man was going to go it *alone.*

Man found theories to provide explanations, on *his terms,* of his environment *and* his society. The theory of organic evolution was *the* theory, which was presented as new, but was really an old, old idea from the Greeks; in fact was a pre-Christian era idea. But nineteenth century materialists had prepared the way for re-acceptance of evolution.

In searching for explanations without God, ideas of "progress," of "development," of "perfection," (and *not* "degeneration," *not* "regeneration," *not* "justification by faith") had reached ascendancy in men's thoughts, as Scoon brings out in his chapter of the book, *Evolutionary Thought in America.* [10]

Even the very old idea from the Greeks of spontaneous generation was considered; and, today, is used by scientists in a disguised form when they postulate regarding the origin of life. Some spontaneous synthesis of life is inherent in the writings of the Oparin[11] and other men who write about possible protein synthesis in some original organic soup as their thinking partakes of a theory of *total* evolution, including the physical, as well as the biological.

Yes, evolutionary speculation had a popular audience because men were anxious to accept Darwin's way of seeing the world.[12] Intellectuals wanted to accept the Darwinian world-view. They had been influenced by the social philosopher, Herbert Spencer, who ranged widely in his writings on such subjects as sociology, psychology, biology, and ethics. In his discussion of these subjects, which were immensely interesting to independent, intelligent thinkers of his day, he infused these subjects broadly with evolutionary ideas.

And Thomas Huxley provided a means of compromise with religious people by coining the word: agnosticism (which, somewhere, Engels called a "polite atheism"). Churchmen and believers were willing to compromise so as to be up to date with the latest explanations.[13] To compromise they yielded to the age-old attraction of a religion of justification by works. Justification by works, of course, is the essence of all natural, non-revealed religions and of all perversions of revealed religion. Therefore, such views can be shown to be just the reverse of the teachings of Jesus Christ which are basic to Christianity. Even in the nineteeth century a topsy-turvy world view attracted so-called intelligent thinkers in Western civilization.

One historian, Bert J. Loewenberg,[14] has written as if evolution were a religion. He speaks of evolution being involved in the "conversion" of men of science, and "conversion" of vocal opinion, which suggests that truth is decided by the raising of hands—by taking a vote. Loewenberg refers even to the "infiltration" of evolution into every decision of scholarship. Yet, in 1959, Loewenberg penned this admission, "There were no incontrovertible facts attesting that one variety had been transmuted into another.''[15] What kind of indoctrination occurred in the nineteenth century, which brought about dissemination of ideas, which conceivably are bearing fruit in this generation?

One feels safe in saying that people of Darwin's day had become accustomed to naturalistic explanations—naturalistic explanatory systems.[16] F. S. C. Northrop[17] has pointed out that Galileo and Newton had mathematized nature, and determinism was widely accepted because of man's successes in the physical sciences wherein derived laws had come to replace Providence, As evolution was presented as fact, as observable, by Unitarians and free-thinkers, the evolutionary theory underscored an eariler faith in man alone; his acts and deeds being judged in the absence of God. Evolutionism had become then the formula of thought (the orthodoxy, the *Zeitgeist,* or the *Weltanschauung)* as surely as fixity of species had dominated earlier thinking.

Scoon[18] shows how extreme application of evolution as fact, as observable, by Ernest Haeckel gave rise to an attempt to disprove three cardinal points of Christianity: the personality of God in Christ, the immortality of the soul, and freedom of will. Without question evolutionist Haeckel forcefully expressed a conviction in atheism. Dutch zoologist Jan Lever has written somewhere that at least three positions are possible in the conscious or unconscious philosophical presuppositions of the consistent evolutionist like Haeckel, or for that matter self-confessed atheist, Sir Julian Huxley. Generally speaking, at the root of the philosophy of evolutionism is a faith:

(a) that God does not exist, which is *atheism;* or

(b) that there was only an impersonal first cause, such as an explosion of a giant nucleus, with no further cause affecting the machinery of the world, which is a type of *deism;* or

(c) that nature itself is God, which is *pantheism.*

Each of these belief systems would involve a clear denial of a "personal God," that is, God in person. The conclusion is most logical that the belief of such as Julian Huxley in the origin of life from lifeless matter is *not* an idea reached inductively. Such a belief quite clearly is a deduction from a "faith;" that is, a faith of atheism.

Yes, evolution was taken for granted as being factual, as being observable, and was used to counter the concept of fixity of species. Fixity of species, involved the idea that there are as many species of plants and animals as appeared in pairs as a result of The Creator's work. Actually fixity of species is no more than an idea of men of the sixteenth through eighteenth century.

Fixity of the species was not and *is not at all* Biblical. Fixity of species was, and often still is, imputed wrongly to the Bible, because there is no mention at all of species as such in the Bible. Fixity of species is often represented by a row of straight arrows with arrowheads pointing upward. Since understanding of variation and change of species was the common result of studies of nature and artificial breeding under the influence of Darwin and his successors, then men thought they had destroyed part of the Holy Bible. Yet that Word only relates that each form shall bring forth "after its own kind," with absolutely no mention of evolution. But evolution was an explanatory system which suited the mind of men who wanted to be free of Providence.

The enthusiasm of evolutionists presented the tree of life to men. The tree of life of evolutionists is represented much as a main river and its tributaries–like the Mississippi river–is drawn on a map. Yet such a tree of life, with present forms having some common origin, is really not much more than the old chain of being of the Greeks.

Evolution, when presented as fact, as observable, was based upon the struggle for existence and survival of the fittest which almost every man knew from first-hand experience. Since reality *was* man's experience, then evolution was accepted as fact. Evolution was accepted as if it was observable because Darwin's massive collection of observations of nature made evolution seem so respectable, so plausible to sensuously oriented men of the nineteenth century.

In a recent publication Loewenberg presents the thesis that Darwinism was accepted fully as fact, as observable in the United States. His booklet, *Darwinism: Reaction or Reform?* [19] recounts permeation of the Darwinian synthesis into every sector of thought. What kind of indoctrination occurred in the United States? The years of 1859 to 1914 were proud years because the new age of science was followed by a new age of man. Because of Darwinism, there was a "new" *logic,* "new" *ethics,* "new" *psychology,* "new" *history,* "new" *philosophy,* and "new" *morality.* These changes in the arena of ideation led to a "new" *sociology,* "new" *anthropology,* and "new" *economics.*

Darwinism was clutched to the bosom of Karl Marx and Frederick Engels. These men wrote that Darwin had given them a basis in science, in biology, for their identification of the class struggle in society. They transferred the ideas of struggle for existence and survival of the fittest from biology to society.

In a recent article on "The Concept of Evolution," A. R. Manser[20] makes the point that it is impossible to understand why Darwin influenced the sociological theorists so profoundly, unless attention is given to the fact that Darwin's whole formulation constituted a type of sociology of nature. In fact Manser suggests that perhaps Darwin should be called "Biology's Karl Marx rather than its Newton." Even now the dogmas of Marx and Engels are taught in Marxian Biology presented to Communist intelligentsia.

Society

Now some attention should be given to the impact of evolution as fact, as observable, in specific fields of subject matter. Only a brief, sketchy treatment of three examples of consequences of the infiltration of the idea of evolution as factual, as observable, into thinking circles of Western civilization, or more particularly in the United States, can be given. The degree to which infiltration of evolution occurred in the areas of (1) history, (2) economics, and (3) social studies and literature is immense. The impact on formulation of public policy as deduction from a materialistic world-view has been colossal.

History

As a *first* example of selected indoctrination by historians involving evolution, I want to refer to the work of Charles Beard. His book on an economic interpretation of the U. S. Constitution[21] could well be considered as an application to history of Darwinian concepts of struggle for existence and survival of the fittest. The thesis which Beard expounded was double-barreled:

a. The Constitution was the work of consolidated economic groups who were personally interested in the outcome of their labors.

b. The Constitution was put over in an undemocratic society by undemocratic methods for the express purposes of checking democratic majorities.

Let me note at the outset that Beard admitted that he had *not* done the necessary research and had only put on paper what he expected he would find. Yet his ideas were accepted as fact in 1913, and used to teach teachers who taught others that this country was founded as a result of class warfare. What kind of indoctrination occurred? And how is Beard's thesis understood today? Finally, after some forty or more years, his thesis is understood as not at all true; and with no basis in fact.

Beard's explanation has been carefully studied in regard to one colony after another. Finally the necessary research has been presented for use in academia. What a great deal of harmful indoctrination has occurred, until the book by Forrest McDonald, *We the People,*[22] appeared with careful treatment of land holdings and voting records of each of the thirteen colonies. And then there are the two specific works[23] by Robert Brown and Katherine Brown on similar close analyses of Massachusetts and Virginia. These researchers have destroyed Beard's expectations, and their results are just beginning to surmount the usual cultural lag in the publication field and the educational classroom.

Economics

To begin my second example of selected indoctrination by intellectuals who applied evolution to their field, I refer to statements made in the Introduction. After Darwin explained man as a physical being, as animal in nature, the next logical step was the extension of biological causation theory to the institutions of man and human society. This Marx did as he reduced the whole sweep of man's history to the *economic* endeavors of individuals and classes. That Marx and Engels quickly accepted Darwin's formulations upon the reading of his *Origin of Species* is brought out by the following 1959 quotation from *Mainstream*, a journal very favorable to socialistic ideas:

> Darwin's *Origin of Species* was an exciting book to Marx and Engels. Here was the most concrete scientific confirmation of dialectics they had yet seen . . . When Marx first read the *Origin* in 1860 he wrote to Engels: 'This is the book which contains the basis in natural history of our view.' And a few weeks later he wrote to Lassalle: 'Darwin's book is very important and serves me as a basis in natural science for the class struggle in history.' . . . .
>
> One striking difference in the thought of these two giants is that Marxism embraces Darwinism, leaving to biologists the working out of the innumerable controversial details. Darwinism stands apart, seemingly separable from Marxism. Yet it is evident to any objective observer, as it was to Wallace, that a theory of social evolution is required by the theory of biological evolution. And if one takes Darwin's thoroughly materialist stand, such a social science must be solidly against all forms of teleology and idealism. It is a most plausible thesis that as time goes on Marx and Darwin will appear ever closer together to those who study them, because the difference and separateness is trifling compared to all they had in common.[24]

Connections between Darwin, Marx and this country can readily be shown by denoting the impact of adherents of the Fabian Society in England. The Fabian Society was the initial work of Sidney and Beatrice Webb, who strove to implement Marxian theory in England. That Fabian Society members made an impact on the United States is documented in the Veritas Foundation publication, *Keynes at Harvard*,[25] which was sponsored by concerned alumni of Harvard University. Researchers of the Veritas Foundation have found that much of today's college youth show thinking that reflects the following six premises:

1. The private enterprise system of the United States is full of basic contradictions and fundamental flaws which inevitably will relegate it to the scrap heap.
2. Manufacturers, merchants, bankers and the host of corporate executives of the country are hopelessly reactionary and incapable of understanding the need of the "new order."
3. Thrift, savings, ownership and accumulations of private property are harmful to society and are not socially compatible with the "new order" which is rising out of the ashes of the "old capitalism."
4. Society is composed of classes and these classes are conspicuously banded together to protect their overall group interests.
5. The scope of government must be expanded to stand as a "third force," gradually expropriating or redistributing the wealth of existing capitalists through unrestricted powers of taxation and at the same time preventing the accumulation of any new capital.
6. College and university graduates can insure their personal future by attaching themselves to government bureaucracy, which is destined to expand indefinitely.

This is essentially the philosophy of John Maynard Keynes who was very active in the Fabian Society and came to these shores to convince the then President Franklin D. Roosevelt that the United States should dispense with the gold standard and use printing press paper money. Interestingly enough the exponents of the above type thinking, and members of the Fabian Society do their work under the guise of aiding free enterprise; yet, the shield or coat of arms of the Fabian Society shows a wolf in sheep's clothing. What a deception is represented by such a design! What kind of indoctrination has occurred in the classrooms at Harvard University when the above philosophy has been taught predominantly for about three decades? The reader is referred to *The Failure of the "New Economics"* by Henry Hazlitt[26] and *The Roots of Capitalism* by John Chamberlain,[27] for clear writing on this subject matter area.

Social Studies and Literature

The *third* example of selected indoctrination by intellectuals involves consequences of accepting evolution as fact, as observable, in such areas of our culture as poetry, novels, drama, social studies, sociology, anthropology, and law. Of course "ideas have consequences," and one can wonder what has been wrought in our educational institutions in this country when one considers the research effort in *Cosmic Optimism* (A Study of the Interpretation of Evolution by American Poets from Emerson to Robinson) by Frederick W. Conner;[28] in *Darwinism in the English Novel* by Leo, J. Henkin;[29] in *Evolution and Poetic Belief* by Georg Roppen;[30] in *Darwin Among the Poets* by Lionel Stevenson;[31] and finally in *Evolution, Marxian Biology, and the Social Scene* by Conrad Zirk1e,[32] a botanist.

The latter book by Zirkle was published in 1958 and merits careful study. The author demonstrates how poetry has been used to make the concepts of evolution, struggle for existence, and survival of the fittest palatable to the cultured intellectual.

In the field of novels, Jack London was most effective and persuasive in winning acceptance of socialism, because he accepted the now discredited theory of inheritance of acquired characteristics by which he justified his socialism. The 1961 unpublished doctoral thesis of R. W. Carlson, "Jack London's Heroes: A Study of Evolutionary Thought"[33] provides detailed perspective, and analysis in depth of London's use of evolutionary outlook and in turn Spencerian, Nietzschean, and Marxian outlook to shape his numerous fictional heroes. Of course the latter three outlooks were founded in each respect on some degree of materialistic, evolutionary world view.

Lastly it can be shown that George Bernard Shaw through his dramatic works was very influential during his lifetime, and still is very instrumental in spreading Marxian biology among the intelligentsia. George Bernard Shaw was an outstanding member of the Fabian Society, and realized better than most other writers that the rationality of the Marxian doctrines depended upon certain biological postulates.

Conclusion

In conclusion, the main purpose of this paper should be re-stated. This paper was designed to develop a main thesis with some documentation. The main thesis of this paper dealt with the categorical assertion that presentation of evolution as fact, as observable reality, in educational institutions at any level across the surface of this globe has been used by free-thinking scholars to implement selected indoctrination of the intelligentsia of the various societies of Western civilization. For practical reasons brief discussions of points related to this assertion referred primarily to the United States against the backdrop of dissolution of the West as reviewed in the Introduction.

Evolution and the concept of struggle for existence have been instrumental in the hands of biologists, philosophers, educationalists, religionists and many others in accelerating gross changes in Western civilization—as represented in this country. Evolution and Darwinism were accepted by materialistic thinkers as factual, and observable. Evolutionism even became a religion, an atheistic religion, for some as was pointed out in the instance of Ernest Haeckel and Julian Huxley, at least.

Yet–organic evolution IS NOT FACT, but only a guess. Is it not fraudulent and deceitful to present evolution as factual, as observable? Support for an affirmative answer to this question is clearly brought out by such scientists as G. A. Kerkut in *Implications of Evolution*,[34] David Lack in *Evolutionary Theory and Christian Belief* with sub-title: The Unresolved Conflict,[35] and by Henry Morris in *The Twilight of Evolution.*[36]

It can be stated firmly that absolutely no experimental evidence is known for evolution, when evolution is defined as development of one animal form from another (as reptile from amphibian), or one plant form from another, (as angiosperms from cycads).

To teach organic evolution as fact, as observable, is to seriously misrepresent the state of current research. Further, such misrepresentation contributes strongly to selected indoctrination of young, formative minds. Ideas held by scientists relevant to possible animal group relationships have changed from one viewpoint, to another viewpoint, and back again, over the past one hundred years.

Today, biologists are *again* considering (speculating) the possibility of animal forms coming from several or many different origins, rather than all forms traceable back to some single, simple animal origin. That the idea of several origins was entertained even by Charles Darwin is illustrated in a closing passage of his *Origin of Species:* "There is grandeur in this view of life, with its several powers, having been originally breathed by the Creator into a few forms or into one; . . . "[37]

With no difficulty at all one can demonstrate that several points of view (at least monophyletic versus polyphyletic)[38] are discussed in the scientific literature by those scientists willing to speculate on the subject of origins.

Such speculation about origins of living things goes quite beyond the bounds of adequately empirical, experimental scientific work. Scientists are limited properly to the observable and quantifiable. Hence attention to origins partakes necessarily of philosophical discourses based primarily upon circumstantial evidence.

Even so-called laboratory study of evolution is no more than examination of variation *within* one form or kind (such as bacteria, fruit flies, or moths). Evolutionists claim study of evolution in the laboratory only because they are addicted to using the terms "variation" and "evolution" in an *equivocal* manner.

Evolution is *no more than* a guess. Natural selection and evolutionary thought are *only theoretical.* No transmutation across basic kinds is known or demonstrable; and scientist after scientist attests to this situation. Yet, what kind of *selected* indoctrination occurs when teachers, professors, and textbooks writers present evolution and natural selection as factual, as observable?

Finally, we must recognize that the evolutionary philosophy, or Evolutionism, of such free-thinking intellectuals as Ernest Haeckel and Julian Huxley has been “fostered” by highly spurious science. True scientific principles and methods in the hands of true believers in the Word of God clearly expose evolution as very poor science. In point of fact, application of true methods of testability, repeatability and experimental confirmation exposes evolution, when considered in precise meaning of change of one form or kind into another, as not even science, Therefore, true believers in the Word of God have nothing to fear from attacks on Genesis 1 and 2 from evolutionary atheistic philosophers.

But detachment of men and women from evolution, as a faith, is not as important as attachment of all, who will respond, to the Saviour. Most men of Western civilization have lost their way. On his own terms alone, Western man has sought the perfect organization of society by various means. That is, man has tried monarchy, oligarchy, democracy, socialism, fascist dictatorship, communist dictatorship, and even now is considering evolutionary humanism through controlled application of scientific technology. However man’s *changing* ways, in each instance tried, have fallen short of preferred promises, and men always falter over their own selfishness, the original sin.

Therefore, Christians would offer devotion to Creationism to those who are lost, because Christ says, “I am the Way.” To the mind of man which is steeped in error, Christ says, “I am the Truth,” Christians know that Jesus Christ remains *constant* through the ages in offering Salvation to those who answer His call for faithful acceptance. Only with His help can our good works with fellow human beings reach beyond the bounds of limited material dimensions. Only with His help can man be lifted to heights above supposed salvation through crass evolutionary humanism, which proponents offer as a “new” religion in place of worship of *the* God of the Trinity.

Notes and References

1. Richard M. Weaver, *Ideas Have Consequences.* The University of Chicago Press, Chicago, Ill., 1948, p. 1.
2. The following discourse in the Introduction is based upon pp. 1 thru 7 of the Weaver book mentioned in note #1.
3. Weaver, p. 26.
4. Whittaker Chambers, *Cold Friday,* Random House, New York, 1964, pp. 225 and 226.
5. *Natural Science,* Vol. II, Michigan State University Press, Third (Revised) Edition, 1964, pp. 8-15 and 8-16.
6. *Natural Science,* p. 7-2.
7. *Natural Science,* p. 7-4.
8. *Natural Science,* p. 8-1.
9. Philip P. Wiener, *Evolution and the Founders of Pragmatism,* Harvard University Press, Cambridge, Mass., 1949, pp. 8 and 17.
10. Robert Scoon, “The Rise and Impact of Evolutionary Ideas” in *Evolutionary Thought in America,* Stow Pearsons, Editor. George Brazillcr, Inc., New York, 1956, p. 10.
11. A. I. Oparin, *The Origin of Life.* Dover Publications, Inc., New York, 1953.
12. Roy W. Carlson, “Jack London’s Heroes: A Study of Evolutionary Thought. ” Unpublished Doctoral Dissertation, University of New Mexico, 1961, #61-5265, University Microfilms, Inc., Ann Arbor, Michigan, pp. 3, 27, 45, 46.
13. Windsor H. Roberts, “The Reaction of American Protestant Churches to the Darwinian Philosophy, 1860-1900.’” Published private edition, distributed by The University of Chicago Libraries, Chicago, Ill., 1938.
14. Bert J. Loewenberg, “Darwinism Comes to America, 1859-1900,” *Mississippi Valley Historical Review,* Vol. 28, No. 3, December, 1941, pp. 340, 341.
15. Bert J. Loewenberg, “The Mosaic of Darwinian Thought,” *Victorian Studies* (Darwin Anniversary Issue), Vol. III, September, 1959, p. 15. (See also J. J. Duyvcne’ DeWit, “Reflections on the Architecture of the Organic World and the Origin of Man” (A Critical evaluation of the Transformist Principle), *Philosophic Reformata,* 29e Jaargang 1964.)
16. Loewenberg, 1941, pp. 347-357.
17. F. S. C. Northrop, “Evolution in Its Relation to the Philosophy of Nature and the Philosophy of Culture” in Persons of note #10.
18. Scoon, p. 35.
19. Bert J. Loewenberg, *Darwinism: Reaction or Reform?* Holt, Rinehart and Winston, New York, 1964, pp. 1 and 15.
20. A. R. Manser, “The Concept of Evolution,” *Philosophy,* Jan., 1965, pp. 21, 30.
21. Charles A. Beard, *An Economic Interpretation of the Constitution of the United States.* The Macmillan Company, New York, 1913.
22. Forrest McDonald, *We The People.* (The Economic Origins of the Constitution). The University of Chicago Press, Chicago, Ill., 1958.
23. Robert E. Brown, *Middle Class Democracy and the Resolution in Massachusetts, 1691-1780.* Cornell University Press, Ithaca, N. Y., 1955; Robert E. and Katherine Brown, *Virginia 1705-1786: Democracy or Aristocracy?* Michigan State University Press, East Lansing, Michigan, 1964.
24. H. Selsam, “Charles Darwin and Karl Marx,” *Mainstream,* Vol. 12, No. 6, June, 1959, pp. 28 and 36.
25. Veritas Foundation Staff Study, *Keynes at Harvard* “Economic Deception as a Political Credo.” Veritas Foundation, West Sayville, New York, 1960. (See also Veritas Foundation Staff Study, *The Great Deceit* (Social Pseudo-Sciences). Veritas Foundation, West Sayville, New York, 1964; Anne Fremantle, *This Little Band of Prophets: The British Fabian.s.*

#MT 266, Mentor Book, The New American Library, New York, 1960; and Sister M. Margaret Patricia McCarran, *Fabianism in the Political Life of Britain, 1919-1931.* The Heritage Foundation, Inc., Chicago, Ill., 1954,)

26. Henry Hazlitt, *The Failure of the "New Economics"* "An Analysis of the Keynesian Fallacies." D. Van Nostrand Company, Inc., New York, 1959.
27. John Chamberlain, *The Roots of Capitalism.* D. Van Nostrand Company, Inc., Princeton, New Jersey, 1959.
28. Frederick W. Conner, *Cosmic Optimism* (A Study of the Interpretation of Evolution by American Poets from Emerson to Robinson). University of Florida Press, Gainesville, Florida, 1949.
29. Leo J. Henkin, *Darwinism in the English Novel.* Corporate Press, Inc., New York City, 1940.
30. Georg Roppen, *Evolution and Poetic Belief.* Oslo University Press, Oslo, Norway, 1956.
31. Lionel Stevenson, *Darwin Among the Poets.* Russell and Russell, New York, 1963.
32. Conway Zirkle, *Evolution, Marxian Biology, and the Social Scene,* University of Pennsylvania Press, Philadelphia, 1958.
33. Carlson, *op. cit.,* 1961
34. G. A. Kerkut, *Implications of Evolution.* Pergamon Press, New York, 1960.
35. David Lack, *Evolutionury Theory and Christian Belief* (The Unresolved Conflict). Methuen and Co.. Ltd., 36 Essex Street, Strand, London, England, 1961.
36. Henry Morris, *The Twilight of Evolution.* Baker Book House, Grand Rapids, Michigan, 1963.
37. Charles Darwin, *Origin of Species.* The Modern Library Edition, p. 374.
38. Even at the turn of the century examples of scientists supporting the idea of multiple origins can be found; in particular,

> "... the assumption of monophyletic evolution of the whole kingdom of organic life is a delightful dream without any scientific support ... it is impossible to trace back the chief types of the animal kingdom to one primitive form ... Von Wettstein among the botanists, and, more particularly, Steinmann, Koken, and Diener among the palaeontologists, have recently come forward as champions of the theory of polyphyletic evolution." pp. 15, 16 *Problem of Evolution* by Erich Wasmann, entomologist. Kegan, Paul, Trench, Truber and Co., London, 1909.
>
> Then, in 1935, Heribert Nilsson, botanist, concluded:
>
> "It is obvious that the investigations of the last three decades into the problem of the origin of species have not been able to show that a variational material capable of competition in the struggle for existence is formed by mutation
>
> We are forced to this conclusion that *the theory of evolution has not been verified by experimental investigations of the origin of species."* (Emphasis added by Nilsson) in journal *Hereditas,* Vol. 20, 1935, p. 236.

But such thinking (speculating) has accelerated in the last decade as shown in the following eight quotations:

> "... although evolution finds wide tacit acceptance ... , many people gravely doubt the validity of many of the more particular arguments by which it is customarily sustained ... while it may be justified to believe that evolution affords a reasonable explanation of the facts of nature, it is not justifiable to maintain that no other explanation is possible or permissible." *Features of Evolution in the Flowering Plants* by Ronald Good, botanist. Longmans, Green and Co., London, 1956, pp. 1, 2.
>
> "The surface of the land, the weathered superficial layers of the crust of the Earth, shallow continental basins and lagoons of the ocean, were the arenas in which life came into being on our planet *in the form of a multifarious host of germs."* R. L. Berg, biochemist, in *The Origin of Life on the Earth* by A. I. Oparin and others, Pergamon Press, New York, 1959, p. 171. (Emphasis added)
>
> "The difficulty of placing viruses, bacteria, certain 'algae,' sponges, and so on, in a fitting place in any taxonomic scheme based on a monophyletic hypothesis may stem from the possibility that the discontinuities are real and represent the existence of separate lines of descent from independent instances of neobiogenesis (establishment of primitive organisms) at different times in the history of the earth down to the present." John Keosian, biochemist, in *Science,* Vol. 131, 19 February, 1960, p. 482.
>
> "It is worth paying serious attention to the concept that the invertebrates are polyphyletic, ... One thing that does seem reasonably clear is that many of the groups such as the Amphibia, Reptilia and Mammalia appear to be polyphyletic grades of organization ... On the other hand there is the theory that all the living forms in the world have arisen from a single source which itself came from an inorganic form ... the evidence that supports it is not sufficiently strong to allow us to consider it as anything more than a working hypothesis." *Implications of Evolution* by G. A. Kerkut, physiologist, Pergamon Press, New York, 1960, pp. 152, 153, 157.
>
> "The palaeontological record as we know it today includes many examples of polyphyletic or parallel evolution in which the development of similar morphological features has been achieved in two or more independent lines." Loris S. Russell, paleontologist, in *Evolution: Its Science and Doctrine* edited by Thomas W. M. Cameron, University of Toronto Press, 1960, p. 10.

After quoting another researcher that as far back as fossil material is found, the conifers, ginkos, and Taxales are distinct and clearly differentiated from one another, Henry N. Andrews, botanist, adds,

> "I am inclined to go a little farther than this and proffer the opinion that the ginkophytes will ultimately be shown to have evolved as a distinct and independent line of seed plants." in *Studies in Paleobotany,* John Wiley and Sons, Inc., New York, 1961, p. 315. (See also his statements on separate and independent origin of most other major groups of plants on pp. 159, 312, and 398-402.)
>
> "It is suggested that the major groups of animals arose polyphyletically, over a period of time, from a geographically widespread variety of prozoan eobionts which were evolving to explore the variety possible within a limited physico-chemical framework." J. R. Nursall, zoologist, in *Evolution,* Vol. 16, March, 1962, p.

122. (See also his proposed polyphyletic or multiple origins scheme in diagram form on p. 121.)

"The great diversity of tracheophytes in Devonian times makes it tempting to believe that the Tracheophyta were polyphyletic, because even as early as that time the lycopod, spensopsid, and fern lines were distinct. Workers adhering to the polyphyletic point of view argue that because these lines are distinct as far back as they are known, they must have had independent sources. Other considerations, however, make it appear less likely that more than one group of ancestors are involved . . . Probably the most convincing piece of evidence in favor of monophylesis is the nature of the life cycles of the tracheophytes." *Morphology and Evolution of Fossil Plants* by Theodore Delevoryas, Holt, Rinehart and Winston, New York, 1962, pp. 21, 22.

THE AGE OF MAN

DR. ROBERT W. WOOD

An Introduction to the Method of Archeological Dating by the Use of Radioactive Carbon

It is refreshing and encouraging when from the laboratories of the world's great scientists the end product of research turns out to be corroborative evidence for the faith which Christians have held in the inspired Word of God. Higher criticism has often rejected certain portions of the Word as of human origin, subject to human mistakes, but happily in many instances the later developments of science have revealed the harmony of factual evidence with the Word.

Archeology has played its part in this verification many times. Probably no single idea, however, has presented such a barrier to mutual understanding between scientists and religionists as the question of the origin of man on earth and the length of his terrestrial history.

Many methods have been employed in an attempt to date the origin of the earth. All of these methods have assumed the continuity of existing conditions extrapolated into the distant past, "Knowing this first, that there shall come in the last days scoffers . . . saying, Where is the promise of his coming? for since the fathers fell asleep, all things continue as they were from the beginning of the creation." II Peter 3:3, 4. Attempts of this sort which might be cited are the age of stalactites and stalagmites as determined by their present rate of formation; the uranium clock; the age of the Grand Canyon as determined by the present rate of erosion.

All of these methods of dating, however, have the common disadvantage, as far as dating the origin of man is concerned, that it is impossible to tie man in directly with the dating mechanisms. Even if we were to assume the validity of the conclusions by assuming the validity of the premises, the age of man is still undertermined, and if the premises are not valid, the conclusions derived from these faulty premises would be invalid.

Within the past few years, a method of dating archeological specimens has been developed which has the advantage of a direct tie-in with mankind. While the premises are of the same nature as has previously been universally accepted by scientists dealing with this question of origins, the conclusions are not as far from the dates given in the Word as has been true in other methods. In fact, the results of this later research are of the same order of magnitude as that given by revelation.

I refer to the dating of archeological specimens by the measurement of the radioactivity of a sample of carbon obtained from the charcoal of the fires of ancient man or from his artifacts. The same method has also been applied to samples of carbon obtained from peat beds to determine the date of the laying down of such beds. For the establishing of one's faith as well as to keep up with current research along these significant lines, it is profitable to study in some detail into the theory which leads to this so significant conclusion.

The premises that have been laid down by the scientists working in this area are:

(1) The rate of formation of radioactive carbon C_{14} is constant and has remained constant through past ages beyond the limitations of this method of measurement.

(2) Equilibrium was established ages ago, in the extremely distant past, between the rate of formation of C_{14} and its radioactive decomposition with the result that the radioactivity of a fresh sample of carbon has been constant during all the age of man.

(3) A sample of carbon may be removed from the reservoir of carbon in which this equilibrium is maintained constant by stirring, by being cut down from the parent tree so that there is no longer a possibility of replenishing the decomposing C_{14} with atoms freshly formed. This results in the dead sample of carbonaceous material following an exponential decay curve with respect to its radioactivity. By measuring the radioactivity of an old sample, therefore, and assuming that its radioactivity when it was fresh was the same as the fresh sample today, the age of the old sample may be calculated by reference to the exponential decay curve.

The rate of formation of C_{14} is known and the method is known. Neutron secondaries from cosmic radiation react with nitrogen of the air to from C_{14} and to liberate a proton. Practically all of these neutrons are absorbed in this way in the upper third of the atmosphere, the measured intensity being 8/10 of a neutron per second per square centimeter with an accuracy estimated at ±3 times.

Practically all of the C_{14} thus formed combines with the oxygen of the air to form carbon dioxide which is absorbed in the clouds and precipitated as rain or circulated in the atmosphere to be taken up by the vegetation of the earth. The carbon in the atmosphere, in sea water and in the shells of living structures, in the carbonaceous material of living plants and animals constitutes, therefore, the reservoir in which the carbon is maintained at the equilibrium value.

Carbon fixed in the shells and bones of dead animals, and in the wood of trees which have been cut is undergoing radioactive decomposition of C_{14} but not replacement. Carbon obtained from anthracite coal, from petroleum, and from limestone shows very little if any radioactivity.

If we integrate over the surface of the earth, whose area is 5.1 x 10^{18} square centimeters, we find that the rate of formation over the entire surface of the earth is 4.08 x 10^{18} atoms per second,

The measured half-life of C_{14} is very close to 5,000 years. At the above rate of formation, the total amount of radioactive carbon in the earth may be calculated by assuming that, since the rate of formation is also the rate of decomposition, half of it would decompose in 5,000 years. This gives us a value of 22 metric tons for the total amount of C_{14} on the earth today. Since 5,000 years is a relatively long time, it is assumed, and this assumption has been verified by measurement, that even though the rate of formation is not uniform over the surface of the earth, the stirring by wind and ocean current distributes the C_{14} so uniformly that the concentration of C_{14} is uniform over the earth's surface.

It has been estimated by various investigators that the amount of carbon in the earth is distributed somewhat as follows: 5 x 10^{13} metric tons in the biosphere; 3 x 10^{13} metric tons in the hydrosphere; 6 x 10^{11} metric tons in the atmosphere; or a total of 8.1 x 10^{13} tons in the active reservoir. The accuracy of this estimate is probably ±2 times. Comparing this quantity with the amount of radioactive carbon, we see that there are .3 x 10^{-12} grams of radioactive carbon per gram of carbon, and from the half-life this should give 3 atoms decomposing for each gram of a fresh sample of carbon per minute.

It may be recalled that the accuracy of measuring of the rate of formation was ± 3 times, and the accuracy of measuring the carbon in the earth is also estimated to be about ± 2 times so that this final measure of 3 atoms per gram per minute should be accurate with ± 6 times, or the actual measured radioactive decomposition should lie somewhere between one-half of an atom per gram per minute and 18 atoms per gram per minute. Measurement shows that the activity of a fresh sample is actually 10½ atoms per gram per minute which is well within the limits established by this theoretical preview.

In order to measure rates of decomposition as low as 10½ atoms per gram per minute, it was necessary for the investigators to develop methods of shielding to lower the background count so that this background count would not obscure the true count. This was accomplished by shielding with 8 inches of steel and with a system of anti-coincidence counters.

Having developed the technique, investigators then checked to see whether fresh samples from all over the world would give the same value and they found that within the limits of experimental error the fresh samples checked. They then took samples whose age had been independently determined by other methods, e.g. by tree ring dating, historical dating, etc. The inner ring from a redwood tree and another inner ring from a Douglas fir tree were dated.

Other samples were selected whose independent dating was accomplished by historical connection of the sample, e.g. a piece from the coffin of Ptolemy; a sample from the floor of a Syrian palace; a piece from the deck of a ship (cedar of Lebanon) which was identified as belonging to Sesotris; cyprus from the tomb of Zozer; and acacia from the tomb of Sneferu. These samples were dated by the radioactive carbon method and the dates obtained checked with the independent dates with an accuracy of a century. The oldest samples dated in this way were the materials from the tombs of Zozer and Sesotris, approximately 4,500 years old.

The inaccuracy could have been due to experimental factors and possibly also to some theoretical ones, e.g. wood taken from the heart of a tree is quite evidently dead wood as has been suspected by biologists for some time, but the exact time at which it became dead wood may be in question. Undoubtedly, several of the outside rings are still subject to carbon exchange through live connection with the tree. One may see this very clearly in the hollow sycamores of the Midwest.

A sample taken from a timber in the deck of a ship or in a palace floor might have been taken from inner rings of a tree or from near the surface. The measured date, therefore, would vary from the date of its use as a timber by the time which had elapsed since it lost connection with the living part of the tree. The remarkable aspect of these measurements is therefore not that there is a variation of a century from the historical date but that there is as good agreement as actually exists. It would seem that this method of dating is quite an accurate method.

Having thus established the accuracy of the method, the experimenters turned to unknowns and they have published a list of some 160 dates, some of which are dates for the formation of peat beds and some of which are from the artifacts and campfires of ancient man. Even assuming the premises of continuity, some remarkable points stand out; (1) Peat beds and glacial moraine deposits were laid down some 10,000 to 11,000 years ago. (2) Man seems to have appeared in various parts of the world almost at the same time, approximately 9,000 to 10,000 years ago (according to this method of dating). Except for the time elapsed, this fact is in remarkable agreement with the idea of the dispersion following the flood.

Not enough work has been done as yet in order to determine the place on the earth's surface where man first originated. The oldest date is from the Picture Cave of Europe, 15,000 years. Since this date stands alone, it needs verification or explanation. Possibly the fire was built of antediluvian wood. Surprisingly, Folsom man of the United States, commonly thought to exist about 25,000 years ago, is dated about 4,000 years ago, This date for Folsom man is, of course, within the range experimentally measured for accuracy, whereas dates of 10,000 years and 15,000 years, being dates outside of the range experimentally tested, may be subject to error.

Some of the possible sources of error are: (1) If we assume the Biblical account of the flood to be a true picture, the conditions before the flood must have been very different from those following the flood. The water which the Bible says was above the firmament, whether in the form of clouds, vapor, or suspended by centrifugal force might have acted to have absorbed the primary cosmic rays and to turn the direction of such absorption into channels other than the formation of C_{14}.

(2) If the magnetic field of the earth was different before the flood, the number of cosmic rays reaching the earth's surface would have been different.

(3) Even assuming the rate of formation of C_{14} to have been constant, the carbon dioxide thus formed might have remained dissolved in the clouds and vapors of the upper atmosphere and thus have failed to reach the earth's surface so that carbon formed during the antediluvian era would show little or no radioactivity.

If coal, limestone and petroleum were formed by the flood, these ideas are born out by the fact that coal, limestone, and petroleum are relatively non-radioactive. Thus the campfire of the men of the Lascaux Picture Cave immediately after the flood may have been built with some antediluvian wood and would naturally show an extreme age. Artifacts made at that time likewise would appear to be very old.

Equilibrium must have been established very soon after the flood which might have been accomplished by the bringing down to the earth's surface of the dissolved radioactive carbon previously stored in the water above the firmament. The fact that man seems to have appeared in Oregon, Chile, the Orient, and Europe at the same time is quite significant in view of the Biblical account of the dispersion. Much more work needs to be done to trace the development of the ancient civilizations.

It came as a surprise to the writer to know of the discovery in Oregon of a cave filled with 300 pairs of 9,000-year-old (?) sandals–a regular antediluvian shoe store. The spread of ancient man across North America from Oregon to the east and south into Mexico has already been revealed by the measured dates, but much more needs to be done not only about the U.S.A. but about the other continents of the world as well. Undoubtedly many such remains will be dated from various places in the world which, properly interpreted, will throw much light on ancient man.

The question naturally arises at this point– how can this method of dating be harmonized with Biblical account? To find this harmony one must examine the premises. A curve (Figure 1) will illustrate the problem.

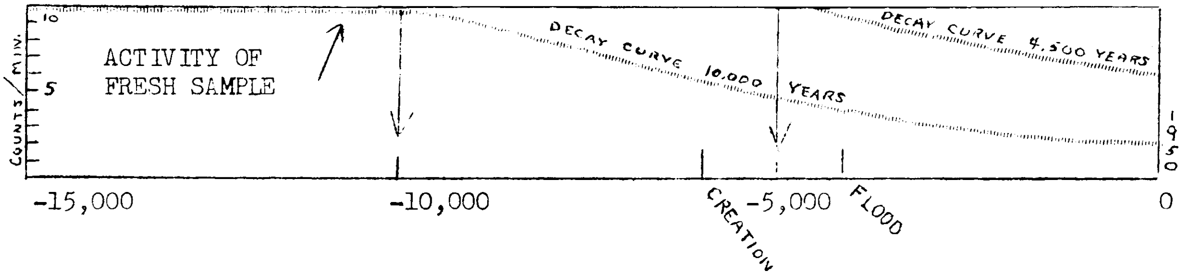
If the activity of a fresh sample of carbon has been the same for ages past, the age of a sample is determined by tracing an exponential decay curve back to its intersection with a horizontal line at the level of the activity of a fresh sample. Figure l-A.

On the other hand if the activity of a fresh sample has not been constant through past ages, for example, if the activity was very low before the flood as indicated by the inactivity of coal and petroleum, the date, while still located at the intersection of the decay curve and the curve of fresh sample activity, will fall at a very different place. (Figure l-B.)

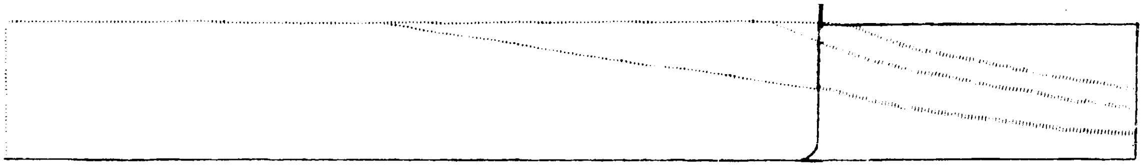
According to this reasoning, the dates for glacial moraine deposits "11,000" years ago, for formation of peat bogs "10,000" years ago, for the dispersion of man over the earth's surface "9,000" years ago, would all occur at or immediately after the flood (in harmony with the Scriptures). This reasoning is based on an assumption not generally accepted by scientists—the theory of a universal flood as reported in the Scriptures. However, the resulting conclusions are not only self-consistent but are consistent with the Biblical account.

Research on dating of archeological specimens is being prosecuted with vigor. Many dates are being determined. As more and more dates come to light, much can be determined about the movements of population, and the original location of the progenitor of the race as well as the time of his appearance on the earth.

Figure 1



1-A Curve of radioactive carbon dating if no break in continuity caused by the Flood.



1-B Effect of the Flood, changing low radioactive carbon activity before the Flood to present activity gives a false effect of age for antediluvian samples.

Possibly nothing can be determined beyond the flood, but even so, if man can be demonstrated to have existed on earth for only 10,000 years or less, antiquarians must revise their thinking and their theories.

Bibliography

W. F. Libby, "Atmospheric Helium Three and Radiocarbon from Cosmic Radiation," *Physical Review,* Vol. 69, Nos. 11 and 12, pp. 671, 672, June 1 and 15, 1946.

W. F. Libby, "Measurement of Radioactive Tracers," *Industrial and Engineering Chemistry,* Analytical Edition, Vol. 19, p. 2, Jan 15, 1947.

E. C. Anderson, W. F. Libby, S. Weinhouse, A. F. Reid, A. D. Kirshenbaum, and A. V. Grosse, “Natural Radiocarbon from Cosmic Radiation,” *Physical Review,* Vol. 72, No. 10, pp. 931-936, Nov. 15, 1947.

W. F. Libby, E. C. Anderson, J. R. Arnold, “Age Determination by Radiocarbon Content: Worldwide Assay of Natural Radiocarbon,” Science, Vol. 109, No. 2827, pp. 227, 228, March 4, 1949.

J. R. Arnold and W. F. Libby, “Age Determinations by Radiocarbon Content: Checks with Samples of Known Age,” Science, Vol. 110, No. 2869, pp. 678-680 ,Dec. 23, 1949.

J. R. Arnold and W, F. Libby, “Radiocarbon Dates,” Science, Vol. 113, No. 2927, pp. 111-120, February 2, 1951.

AN ATTEMPT TO CORRECT FOR THE EFFECTS OF THE FLOOD IN DETERMINING DATES BY RADIOACTIVE CARBON

DR. H. L. ARMSTRONG

Queens College, Kingston, Ontario, Canada

This work grew out of some thought about the suggestion in *The Genesis Flood* that, at the time of the flood, the action of cosmic rays, or similar pentrating radiation, may have caused the great reduction in lifetimes which came then, and also the building up of the amount of radioactive carbon in the air.[1,2] Such increase of radioactive carbon would affect, in turn, attempts to determine dates of organic remains by measuring the amount of radioactive carbon in them.

Now we have no record of the way in which the amount of radioactive carbon built up, but we have in Genesis Ch. 11 a record of the way in which the lifetimes decreased. So perhaps from the one set of information we can deduce something about the other matter.

First of all, there appears to be practically no radioactive carbon in coal. So, if we accept that much of the coal comes from vegetation which was buried at the time of the flood, and that the time back to the flood is not much more than the half life of radioactive carbon (for which, for the present purposes, the round figure of 5,500 years will do), it must follow that there was practically no radioactive carbon in the atmosphere before the flood, I have suggested, elsewhere (See legend to Figure 2), a chronology to show that the date of the flood was approximately 2444 B.C.

During the flood, then, and after, radioactive carbon accumulated in the atmosphere, and defects of some kind accumulated in the human race. The result of the latter accumulation was a decrease in lifetime. If both these things were caused by cosmic rays, which first got through to the earth at the time of the flood, we might expect some relation between these two things, such as has just been proposed.

It seems likely that most of the decrease in lifetime would come from what happened in a man's earlier years. On the other hand, Shem was already one hundred at the time of the flood, yet his lifetime was reduced to six hundred years, from the approximately nine hundred and fifty common before the flood. As a reasonable working assumption, let us take it that a man's vulnerability, so to speak, extended up to the age at which he is first recorded as having begotten a son.

In Table 1 are listed the patriarchs, and some other men, with the dates (the flood being taken at 2444 B.C.), at which they first begat, and the lengths of their lives. In Figure 1 are plotted the lifetimes vs. the date of maturity B.C. (i.e., of first begetting) and a smooth curve has been drawn through the points. Naturally, the points will scatter around the curve, for "time and chance happeneth to them all" (Ecclesiastes 9, 11). The curve might be called that of average lifetime vs. date of maturity.

Now let us assume as already suggested that the rate of change or increase of the concentration of radioactive carbon is proportional to the rate of change or decrease of average lifetime. This seems plausible if both changes are due to the same cause. Then, when the lifetime has settled down to its steady magnitude of seventy years, about 1000 B. C., the concentration of radioactive carbon will have settled down to its present "steady" magnitude.

Moreover, at any date, the amount of radioactive carbon will be to the present amount as the amount by which the average lifetime had decreased from nine hundred and fifty years is to the total decrease, i.e. from nine hundred and fifty to seventy or eight hundred and eighty years. For instance, at a date when the average lifetime was five hundred and ten years, the amount of radioactive carbon was just half what it is now.

Actually, there should be some averaging of the amount of radioactive carbon over all the time in which the sample concerned was growing. But, then, there ought to be some averaging over the time in which the man concerned was growing. Since these two effects should be somewhat parallel, relating lifetime to concentration of radioactive carbon at the time of maturity should be reasonable.

The amount of radioactive carbon in a sample at any subsequent time is given by exp(—T/8000) times the amount with which it started, T being the time in years. (The number 8000 is given by $5500/\log_e 2$). If the sample started out with only l/x the supposed concentration, one assuming that it started with the supposed (i.e., present) concentration, would take the age as the true age plus the time for the concentration to decay to l/x, i.e., plus $8000 \log_e x$ years.

The concentrations as various dates, from 1000 B. C. back to 2440 B. C., have been taken from the graph in Figure 1, as suggested, the fraction l/x of the present concentration calculated, and $8000 \log_e x$ years added to the (true) date to give the indicated date, i.e. indicated by the

Figure 1

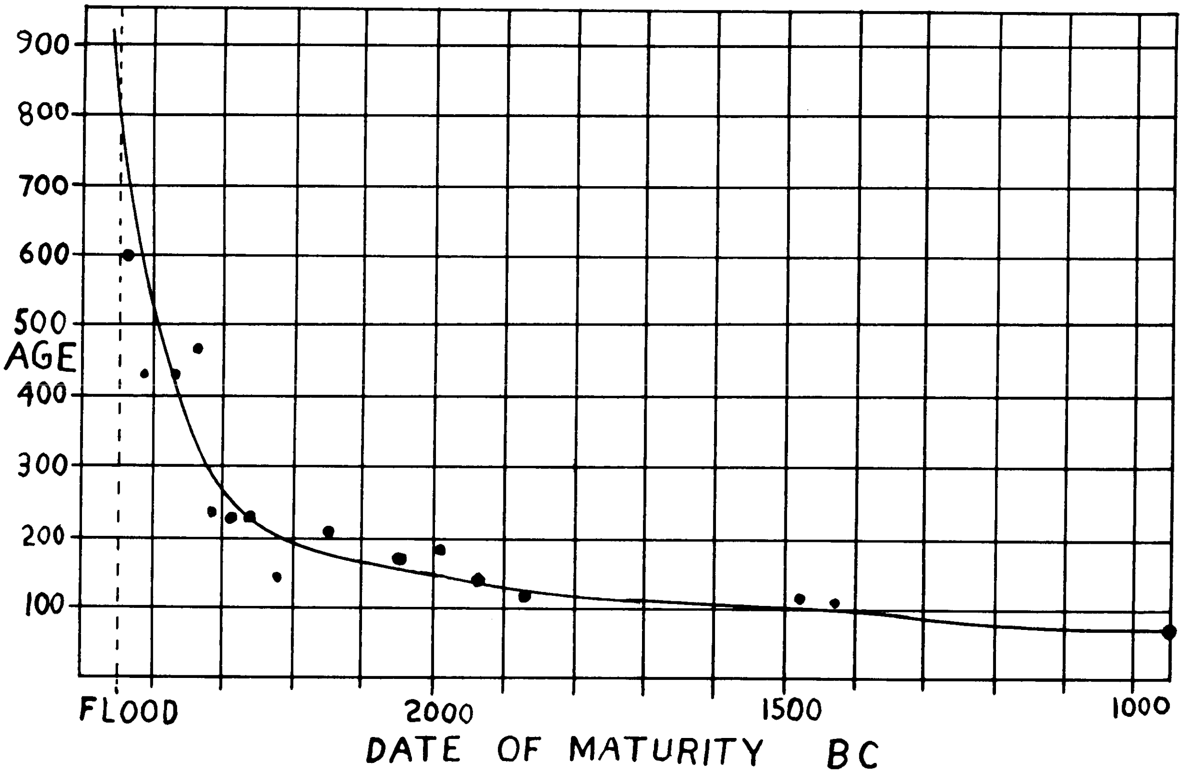


Figure 1. Here the age to which patriarchs and others lived has been plotted vs. their date of maturity, i.e., of first recorded begetting, and a smooth curve drawn through the points. The chronology is one which has been worked out for this purpose, but the substitution of a similar one, e.g., Ussher's, would not affect things appreciably.

---

method of radioactive carbon. In Figure 2 are plotted true date vs. indicated date. The graph goes back from 1000 B. C.; for more recent dates the indicated age will be very nearly correct.

It can be seen that a sample from about 2100 B. C. would be dated as fully one thousand years too old, and for older samples the error would increase rapidly. It is interesting to notice that samples seem to keep on being found which give by radioactive carbon dates around 2500 B.C. to 3000 B.C. but which are dated by other evidence as nearly one thousand years later.[3]

For samples from between about 2400 B.C. and the flood, the dating by radioactive carbon would be very unreliable, and for antediluvian samples it would, of course, be quite impossible. However, let us consider a little more closely what antediluvian samples might show.

Those which were buried quite deeply, such as the stuff which became coal, would probably show practically no radioactivity, But samples buried shallowly, or disturbed from time to time, might quite likely later pick up some small amount of radioactive carbon from the surroundings.

TABLE 1

Name	Date of first begetting	Lived to age
Shem	2442	600
Arphaxed	2407	438
Salah	2377	433
Eber	2343	464
Peleg	2313	239
Reu	2281	239
Serug	2251	230
Nahor	2222	148
Terah	2152	205
Abraham	2052	175
Isaac	1992	180
Jacob	1932(?)	147
Joseph	1869(?)	110
Moses	1470(?)	120
Joshua	1420(?)	110
Solomon	950(?)	70(?)

Table 1. Here the date of maturity, i.e., of the first recorded begetting, and the age to which they lived, are collected for patriarchs and some others. The dates are from a chronology which has been worked out for this purpose; the substitution, however, of another one such as Ussher's would not change things seriously.

Figure 2

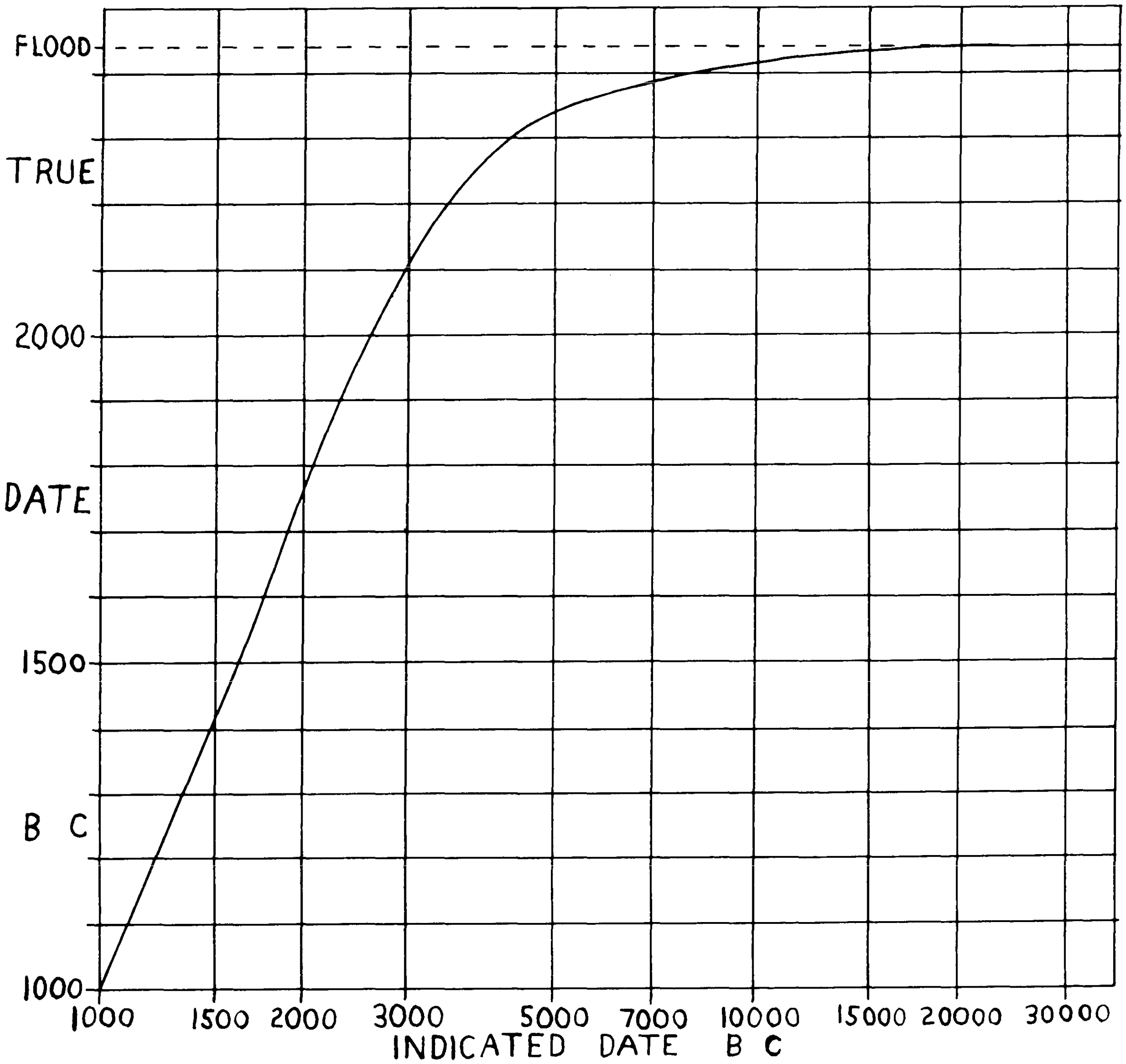


Figure 2. This shows the truedate vs. date indicated by dating with radioactive carbon on the usual assumption that the sample started off with the same concentration of radioactive carbon that it would have if it started now. The chronology used puts the flood at 2444 B.C., but another date near that, such as Ussher's 2349 B.C., would merely shift the curve bodily up or down a bit. Note that the scale of indicated dates is logarithmic.

Thus these would indicate some quite large age, and the indicated ages, like the history of the remains, would be exceedingly varied. It may well be such antediluvian remains which are found from time to time and indicate ages of some tens of thousands of years.

It must be granted that the assumption that average lifetimes and concentration of radioactive carbon are related in the way proposed is indeed an assumption. Moreover, the curve of average lifetime can not be fitted with very great precision because the points scatter so. Neverthe less, this method seems to offer some hope of estimating the amount of error involved in trying to date samples by radioactive carbon.

References

1. J. C. Whitcomb and H. M. Morris, *The Genesis Flood.* The Presbyterian and Reformed Publishing Company, Philadelphia, 1961, pp. 374 et seq.
2. *Op. cit.* pp. 23 et. seq. and pp. 404 et seq.
3. See *The Genesis Flood,* p. 43, for comments and further references.

HOW RELIABLE IS CARBON 14 DATING?

(We print exerpts from two articles which might help on this problem. One is by Harry V. Wiant, Jr., an instructor at Humbolt State Teacher's College at Amata, California. Another is by Lester Harris who is chairman of the Biology Department at Columbia Union College. —Editors)

We quote Wiant:

"Carbon-14 dating has been hailed by a large segment of the scientific world as an accurate technique facilitating the determination of the age of organic remains up to 20,000 years or so in age. This dating method is based on the fact that a certain amount of the nitrogen atoms in the upper atmosphere is induced to produce carbon-14 through the action of cosmic radiation. Carbon-14 is a long-lived isotope with a slow rate of disintegration, having a halflife of 5,760 years.[3]

As a plant living on the earth uses carbon dioxide in the process of photosynthesis, it takes up a certain fraction of the radioactive carbon-14. Animal life also contains about the same proportion of radiocarbon, since plant material is the basic foodstuff, One gram of modern or living carbon will give rise to approximately 15 disintegrations per minute from the carbon-14 it contains.[3] (These disintegrations can be detected by the familiar Geiger-Mueller counter or other similar instruments.)

Half the radioactive carbon atoms present in the gram of modern carbon will have disintegrated within 5,760 years after the organism's death, yielding a count of about 7.5 disintegrations per minute, at this time. In this manner, disintegrations per minute can be related to the age of organic remains,

"Carbon-14 dating has provided answers closer to the truth than former geological estimations where thousands of years have been tossed about with quite unscientific abandonment behind a smoke screen of impressive terminology. For example, dates established by this technique have compressed the history of what the anthropologist would consider to be "early man" to about 10,000 years,[2] and some findings show the last glaciation in North America may have occurred about 3,000 instead of 30,000 years ago,[5]

Errors in the Dating

"However, even these more realistic dates may be subjected to considerable error because of the assumptions inherent in this technique, Among the several suppositions are:

"l. Cosmic radiation has been constant. (Obviously, changes in the amount of cosmic radiation reaching the earth's atmosphere would vary the quantity of carbon-14 produced.)

"2. The content of carbon dioxide in the earth's atmosphere has been constant. (Should the atmosphere have contained a greater percentage of carbon dioxide during certain periods and cosmic radiation remained constant, organisms living then would appear older than they should now because the radiocarbon assimilated was diluted by normal carbon.)

"Immanuel Velikovsky based his theory of 'cataclysmic evolution' on the belief that cosmic radiation has varied greatly in the past, and evidences that such radiation has not been constant are beginning to come to light.

"In respect to the second assumption, P1ass[4] explained climatic changes on the basis of variations in the carbon dioxide content in the atmosphere. He stated that a reduced amount of this gas at the time of the last glaciation would mean that the radiocarbon dates for events before the recession of the glaciers are in question.

"In closing, it might be noted that this dating system is of proven fallibility. A case in point is the instance when radiocarbon dating indicated the wood of living trees growing near an airport to be more than 10,000 years old, because it contained so much inactive 'fossil carbon' from the exhaust of airplanes.[1]"

Literature cited by Wiant

1. Huber, B. 1958. "Recording Gaseous Exchange under Field Conditions." In: *The Physiology of Forest Trees.* K. V. Thimann (ed.) The Ronald Press Co., New York, pp. 187-195.
2. Moore, R. 1953, *Man, Time, and Fossils.* (The story of evolution). Alfred A. Knopf, Inc., New York, 411 pp.
3. Oak Ridge Institute of Nuclear Studies (undated) Research courses manual. Special Training Division. Exp. 16.
4. Plass, G. H. 1956. "The Carbon Dioxide Theory of Climatic Change." *Tellus* 8: 140-154.
5. Velikovsky, I. 1955. *Earth in Upheaval.* Doubleday Co., Inc., New York, 301 pp.

* * * * * *

Harris uses much the same explanation as Wiant to show how carbon-14 dating is possible. Then he indicates some of its weaknesses. He states it is virtually impossible to know whether the sample for which age is to be determined is free of foreign carbon-containing material.

Rootlets and other recent material would lower the apparent age, while infiltration by carbonates and bicarbonates relatively free of radioactivity would greatly exaggerate the age. Any dated object from a limestone soil region would have a dubious date indeed, for much (if not most) limestone is sedimentary, and fossiliferous in origin and is capable of easily dissolving and precipitating whenever moisture is present.

Harris points out that atmospheric levels of carbon-14 are not constant. The reliability of the dating techniques depends on the constancy of carbon-14 formation and its atmosphere-plant-animal equilibrium. The earth itself is witness to this inconstancy. The worldwide evidence of great volcanic activity in the past is mute testimony to the fact that the atmosphere has received great quantities of nonradioactive CO_2 from volcanic ages.

Harris states: "H. E. Suess *(Nuclear Geology,* p. 354) has shown that there has been a significant decrease in atmospheric radio-carbons in the past fifty years as a result of the industrial revolution and the burning of great quantities of coal and oil. On the other hand, it can be shown that the radio-carbon level in the atmosphere has increased by as much as 12 percent as the result of atomic explosion tests. Perhaps no future carbon dating of present materials will be valid."

Constant Bombardment Assumed

The third point Harris makes is that there is no proof that cosmic-ray bombardment of the earth's atmosphere has been constant. The radio-carbon dating technique must assume this constancy, however, in order to be valid.

Harris continues: "The tremendous quantity of fossil carbon now existing in the forms of coal, lignite, petroleum, oil shale, fossiliferous limestone, etc., indicates a prior condition when most of that carbon was a part of the atmosphere as carbon dioxide. It is also known that the higher concentrations of atmospheric carbon dioxide than our present .03 plus percent will greatly accelerate most plant growths. Carbon dioxide concentrations up to a hundred fold would have no harmful affects on higher animals.

"If an antediluvian atmosphere contained, say, only ten times as much carbon dioxide as now, the ratio of carbon-14 concentration to nonradioactive carbon concentration would be only one tenth as great, and the apparent radiocarbon age of the organic materials produced under such conditions would be of the order of less than one third that presently assigned to them (2 to the third power equals 8). Such a figure would bring most of the published radiocarbon dates into harmony with the historical record of the Bible. The obviously inconsistent dates of samples from the same geological formations may well be explained by sample contamination."

ADAPTATION AT BIRTH VS. EVOLUTION

Dr. Larry Butler

University of Arizona, Tucson, Arizona

One of the tremendous challenges faced by a new-born baby is his sudden and complete dependence on his heretofore unused and untested lungs. Until birth, the blood is diverted around the perfectly developed but nonfunctional lungs by a system of bypasses which normally become closed off at birth, thus forcing the blood to flow through the lungs.

One of these short-circuits, a unique blood vessel called the *ductus arteriosus,* is clamped shut at birth by a ring of strongly-contracting muscle. This muscle remains firmly contracted until the by-pass blood vessel has withered away and then it, too, degenerates and disappears, after contracting only one time.

What a simple, yet significant task for this tiny ring of muscle! If it fails in its destined function, the resulting "blue baby" may be severely impaired and require surgical attention.

The vital role of this tiny muscle could *not* have been fulfilled by a mere rudimentary muscle which gradually developed to its present functional capacity by a process of evolution, because the muscle must have been fully developed and have operated perfectly for the infant to survive to maturity without modern medical aid.

Thus this tiny, shortlived muscle, destined to contract but a single time and then to perish, testifies vigorously against the theory of evolution, which denies God and the Bible

METEORITES, MAN, AND GOD'S PLAN

DR. LARRY BUTLER
University of Arizona, Tucson, Arizona

Unregenerate man has consistently substituted his own willful desires for God's perfected plan. The Apostle Paul testified, "When they knew God, they glorified Him not as God, neither were thankful; but became vain in their imaginations, and their foolish heart was darkened" (Romans 1:21).

The tower of Babel was the first of many futile attempts to reach heaven and thus gain immortality through man's own strength rather than obedience to God. Later on during the Dark Ages, mystical potions called "the elixir of life" or "the fountain of youth" were sought in the hope of attaining eternal life, rejecting God's clear plan of salvation through faith in His Son.

In our own time the current interest in, and search for, extra-terrestrial life, so expensive in terms of scientific manpower and taxpayer's money, has overtones of the same God-rejecting theme. A related area of lively interest is the synthesis of life, which Dr. Charles Price, president of the American Chemical Society, has proposed as a "national goal."

The search for life beyond the earth involves astronomical observation, monitoring of radio waves, and extensive plans for space exploration. So far, the only extra-terrestrial *matter* (as opposed to 1ight and radio waves which are *energy)* available for study by earth-bound scientists are the meteorites. Numerous carbonaceous meteorites have been submitted to careful and rigorous examination for evidence of life elsewhere in space,

The present intensity of interest in this research is reflected in the large proportion, over 10%, of the papers presented at the 1965 annual fall meeting of the National Academy of Sciences which were concerned with analyses of meteorites for possible traces of indigenous biological activity. This percentage is extremely high when the breadth of interests within the Academy are considered.

The studies indicate that the possibility of contamination of the meteorites after arrival in the terrestrial environment is extremely difficult to exclude completely, but that certain carbonaceous meteorites apparently do contain indigenous organic molecules. Nagy, *et al,*[1] reported that they extracted optically active compounds from the Orgueil meteorite, and cautiously suggested biological activity of indigenous origin. Hayatsu[2] was unable to duplicate the results of Nagy, *et al,* and demonstrated that experimental errors could account for their observations.

On the basis of morphological evidence, other scientists[3] have interpreted organized elements in carbonaceous chondrites as fossils, Indeed, in order to circumvent the thorny problem of the origin of life in evolutionary theory, it has sometimes been suggested[4] that the primeval source of earthly life, from which it is postulated that all other life evolved, was a meteorite contaminated with some form of extremely resistant spore or virus. This postulate obviously leaves unsolved the question of the ultimate origin of life.

Very recently, however, scientists from the University of Chicago and Argonne National Laboratory have reported[5] that the identity and distribution of organic compounds in meteorites is remarkably close to the mixture formed spontaneously in a laboratory when the proper proportions of hydrogen, oxygen, and carbon are brought together at about 300°C.

Formation of the organic compounds does not require a source of radiant energy such as ultraviolet light, gamma rays, or electrical discharge, and even more significant, the organic compounds formed are definitely *not* products of living organisms or cells. This last aspect of the discovery, obviously unfavorable to proponents of life in "outer space," was omitted from the accounts in the scientific press[6].

This report leaves without a shred of evidence those who claim a biotic origin for organic compounds in meteorites, the only extra-terrestrial material available for direct examination and analysis. Perhaps equally important, the position of Biblical Christianity, that of acceptance of scientific *data,* but rejection of atheistic *interpretations* of that data, is seen to be fully justified.

Only God knows what will be the ultimate outcome of these efforts to synthesize living organisms or to find them in space. As David put it, "For with thee is the fountain of life" (Psalms 36:9). Only God knows how deeply finite man will be permitted to delve into these mysteries of life. There are Scriptural indications that the limitation of man's dominion is the earth (Genesis 1:28; Psalms 115:16) although God has already allowed 1imited exploration beyond it.

Humanly speaking, the search for extra-terrestrial life by the exploration of space, dependent mainly on continued financial support and technological development, is a far more feasible project than the synthesis of life. The obstacles to the synthesis of life are neither financial nor technological, but are due to a fundamental in-ability to bridge the enormous gap between animate and inanimate matter.

As a Christian and a biochemist, I do not believe that God will allow these obstacles to be overcome, nor do I believe that life will ever be found beyond the earth. God's character and God's plan have not changed since He declared: "I am the Lord: that is my name: and my glory will I not give to another" (Isaiah 42:8).

References

1. B. Nagy, *et al., Nature,* 202,228 (1964).
2. R. Hayatsu, *Science,* 149, 443 (1965).
3. F. L. Staplin, *Science,* 150. 385 (1965).
4. See, for instance, R. B. Brown, *Biology,* D. C. Heath and Company, Boston, (1961) p. 520.
5. M. H. Studier, R. Hayatsu, and E. Anders, *Science,* 149, 1455 (1965).
6. *Chemical and Engineering News,* October 25, 1965 p. 38, and *Industrial Research,* November, 1965, p. 46.

BOOK REVIEW

SAMUEL WOLFE

421 *West Padre Street, T3, Santa Barbara, California*

Phenomenon of Man by Teilhard de Chardin
Harper Brothers, 493 33rd Street
New York City, 1959, 318 pp. No. Illus. ($5.00)

Chardin undoubtedly has aroused the enthusiasm of those who would like to harmonize a spiritual concept of life with the presumed findings of modern science.

First he claims evolution has not been properly understood because the irreducible psychic and spiritual element has been ignored. Thus he shows how intelligence varies in species in proportion to the size of the brain. He then calls for a Platonic type of classification by the "souls" of the species rather than an Aristotelian one by outward features familiar to us from the days of Linnaeus. (pps. 141-152)

He deals with phenomena in terms of a "world-soul"; and according to his "pleroma thinking" when souls become alive through salvation, there will be a new realization of "soul-life" throughout the universe.

He argues that the New Testament clearly teaches what might be called "pleroma thinking" about Christ as "the fulness of Him that filleth all in all." (Ephesians 1:23). In this respect he follows Leibnitz, Kant, Hegel and Schelling who maintain that spirit and matter are only different aspects of one and the same "world soul or world stuff." As Duyvené de Wit says somewhere, "Teilhard's cosmology may be termed 'evolutionistic Schellingism'."

Chardin's writings have a unique quality—a vitality and vivid power such that his biology, astronomy, paleontology and history glow and throb in a mental cathedral of luminous interrelated coherence. Thus in the chapter "Demeter" of the section "The Approach of Time." (pp. 152-160) we find "a great calm seems to be reigning (at the end of the Tertiary) . . . fertile steppes and dense world wide forests . . . Myriads of antelopes and Zebras, a variety of proboscidians in herds, deer with every kind of antler, tigers, wolves, foxes, and badgers . . . the landscape is not too dissimilar from that which we are today seeking to preserve in National Parks . . . a period of calm profusion. The mammalian layer has spread out. Yet evolution cannot be stopped. Something, somewhere, is unquestionably accumulating and ready to rise up for another forward leap. But what? And where?" Chardin then applies his thermometer of consciousness to find where the sap is flowing and the psychic tension increasing at the base of the nervous system. "In what region of the biosphere in the Pliocene period is there a sign of rising temperature?", he asks.

In the insects a "cephalic concentration of nerve ganglions goes hand in hand with an extraordinary wealth and precision of behavior." And yet they are "pathetically involved and struggling in a blind alley . . . First of all insects are too small. For quantitative development of the organs; an external chitinious skeleton is a bad solution . . . The insect cannot grow . . . without becoming dangerously fragile . . . Our own cleverness is dumbfounded by the extreme precision of their movements . . . Looked at more closely, this perfection is conditioned by the extreme rapidity with which their psychology becomes mechanized and hardened."

In the mammals however "instinct is no longer narrowly canalised, as it flutters, in the spider or the bee, paralyzed to a single function. Individually and socially it remains flexible. It takes interest, it plays . . . no longer completely the slave of its phylum . . . Around it an aura of freedom begins to float, a glimmer of personality. And it is in this direction that the possibilities presently crop up."

Chardin speculates that the luxury of achievement distinguishing the magnificent antlers on the foreheads of stags, the lyre shaped horns on the heads of antelopes mark these creatures for an early (paleontological) death . . . But the primates swing ahead at this point, with lemurs and Tarsius reaching their prime near the end of the Eocene.

The bone structure of the anthropoids remains relatively stable while those of kindred groups become specialized to a dead end. "Right up to the Pliocene period, the primates remained the most 'primitive' of the mammals as regards their limbs—also the most free." And with this freedom "they lifted themselves to the very frontiers of intelligence."

Now the whole thrust is toward what Chardin calls the "Omega Point," the apex of the evolutionary pyramid, coinciding with the Christ of Catholic theology. Concerning "Omega Point" he says, "I should never have ventured to envisage the latter if in my consciousness as a believer, I had not found not only its speculative model but also its living reality." (p. 294) on page 297 he says, "Evolution has come to infuse new blood into the perspectives and aspirations of Christianity, In return is not the Christian faith destined to save and even to take the place of evolution?"

He defends what some might call the pantheistic concept by claiming his ideas are "an absolutely legitimate pantheism, for if, in the last resort, the reflective centres of the world are effectively no more than 'one with God,' this state is obtained not by identification (God becoming all) but by the differentiating and communicating action of love. (God all *in every one)* And that is essentially orthodox and Christian." (p. 308)

In his Appendix (p. 311) he does briefly consider the problem of evil and concludes, "is it really true that, for an eye trained and sensitized by light other than pure science, the quantity of malice of evil . . . does not betray a certain excess, inexplicable to our reason, if to *the normal effect of evolution* is not added the *extraordinary effect* of some catastrophe or primordial deviation?" A complicated sentence but one which seems to mean that Chardin finds it hard to explain the evil of this world on the basis of strictly evolutionary assumptions, and postulates a primordial source of perversity.

Finally, according to Chardin, evolution in the form of man becomes conscious of itself. (p. 220) It is only on this view, he claims, that the human race dare face future, dare hope for survival.

Evidently Chardin accepts the validity of a time significance of the paleontological record. The idea that the distribution of fossils simply represent geographical distribution affected by well established hydraulic, and ecological factors as they were deposited during various catastrophes simply does not occur to him.

Finally Chardin's ideas like those of all theistic evolutionists place the blame for the death of the higher sentient creatures such as birds and mammals squarely on God's shoulders instead of man's where it belongs and is so placed by orthodox Christian belief. For according to traditional interpretation of Genesis 1 and 2, the world was created perfect, plants furnishing the food for the various animals.

Only after man sinned was the world changed into the pattern we now see around us, with animals as well as man subject to death. It might be asked, why should animals die because of man's sin? The answer is that since man was created head of God's creation it would be strange indeed if he died but animals continued to live on free from the curse of death and degeneration. For as St. Paul says, "The whole creation groaneth and travaileth in pain together until now." (Romans 8:22)

A Christian can have confidence in a God who created all things perfect, Who through no fault of His own was subjected to the pain and sorrow of seeing harmless sparrows die because of man's sin, and Who is constantly suffering from the monstrous consequences of man's sin, yet always trying by the power of His Holy Spirit to redeem man and ultimately His whole created universe.

But to believe in and have love for a God such as Chardin pictures, who for eons of time used the cycle of birth and death to gradually by trial and error perfect beings intelligent enough to have a soul, and then have them immediately fall into sin; this sort of God I and no other thinking Christian could ever love. But praise be to God, all schemes such as Chardin's are so lacking in factuality as to make it unnecessary to believe in the limited God he deems essential for his imaginary evolutionary edifice.

Our Society of research scientists representing various fields of successful scientific accomplishment is committed to full belief in the Biblical record of creation and early history, and thus to a concept of dynamic special creation (as opposed to evolution), both of the universe and the earth with its complexity of living forms.

We propose to re-evaluate science from this viewpoint. Beginning in 1964, we are publishing an annual yearbook of articles by various members of the Society and thereafter a quarterly review of scientific literature. Our eventual goal is the realignment of science based on theistic creation concepts and the publication of textbooks for high school and college use.

1. The Bible is the written Word of God, and because it is inspired throughout, all its assertions are historically and scientifically true in all the original autographs. To the student of nature this means that the account of origins in Genesis is a factual presentation of simple historical truths.
2. All basic types of living things, including man, were made by direct creative acts of God during the Creation Week described in Genesis. Whatever biological changes have occurred since Creation Week have accomplished only changes within the original created kinds.
3. The great Flood described in Genesis, commonly referred to as the Noachian Flood, was an historic event worldwide in its extent and effect.
4. We are an organization of Christian men of science who accept Jesus Christ as our Lord and Saviour. The account of the special creation of Adam and Eve as one man and woman and their subsequent fall into sin is the basis for our belief in the necessity of a Saviour for all mankind. Therefore, salvation can come only through accepting Jesus Christ as our Saviour.

Dues are $5.00 per year and may be sent to Wilbert H. Rusch, Sr., Treasurer, 2717 Cranbrook Road, Ann Arbor, Michigan, 48104. Active membership at present is limited to scientists having an M.S. (or equivalent in experience), Ph. D., D.Sc., Ed. D., or M.D. Degrees. Sustaining non-voting membership is open to those who subscribe to the above statement of belief at $5.00 per year and includes subscription to annual and quarterlies.

The inner-core steering committee includes the following:

Thomas G. Barnes, D.Sc.; Physicist, Director, Schellenger Research Laboratories, Texas Western College, 2115 N. Kansas Street, El Paso, Texas
Clifford L. Burdick, M.S.; Geologist (consultant), 206 North Jacobus Avenue, Tucson, Arizona
Bolton Davidheiser, Ph.D.; Geneticist, Biola College, La Mirada, California
Douglas Dean, Ph.D.; Biologist, Pepperdine College, 8035 South Vermont Avenue, Los Angeles 44, California
Duane T. Gish, Ph.D.; Biochemist, Upjohn Company, Kalamazoo, Michigan
John J. Grebe, D.Sc.; Nuclear Physicist, 1505 West Andrews Drive, Midland, Michigan
George Howe, Ph.D.; Botanist, Westmont College, Santa Barbara, California
John W. Klotz, Ph.D.; Geneticist, Concordia Senior College, Fort Wayne, Indiana
Richard G. Korthals, M.S.; Physics, Astronautics, Concordia Junior College, Ann Arbor, Michigan
W. E. Lammerts, Ph.D.; Geneticist, Germain Seed Company, Livermore, California — Chairman
Karl W. Linsenmann, M.D.; 312 East Main Street, Midland, Michigan
Frank L. Marsh, Ph.D.; Biologist, Andrews University, Berrien Springs, Michigan
John N. Moore, Ed.D.; Science Education, Michigan State University, East Lansing, Michigan
Henry M. Morris, Ph. .; Hydraulics and Hydrology, Virginia Polytechnic Institute, Blacksburg, Virginia
Wilbert H. Rusch, Sr., M.S.; Biology, Geology, Concordia Junior College, Ann Arbor, Michigan
Harold Slusher, M.S.; Geophysicist, Asst. Professor of Geophysics and Director, Kidd Memorial Seismological Observatory, Texas Western College, El Paso, Texas
William J. Tinkle, Ph.D.; Geneticist, Anderson College, 112 South St., Eaton, Indiana (retired) — Secretary
Paul A. Zimmerman, Ph.D.; Chemist, President, Concordia Junior College, Ann Arbor, Michigan

Annual $3.50, Quarterly $1.50

Subscription price $8.00